

Combined Index to ASTM Technical Papers and Reports—1968

This is an index to all papers published by ASTM during 1968 in *MR&S*, in the *Journal of Materials*, and in *Special Technical Publications*. Also included are references to those committee reports that include data published in the 1966, 1967, and 1968 *ASTM Proceedings*. The following abbreviations are used. See *MR&S* news index on page 48.

MR&S——Materials Research & Standards
JOM——Journal of Materials
STP——Special Technical Publication
Proc.——ASTM Proceedings

A

AASHO, a survey of portland cement specifications of the United States of America (Gilliland), *STP* 441
 Accelerated condensation, a controlled cyclic condensation humidity cabinet (Minuti and Bowen), *MR&S*, June, 33
 Accelerated tests, accelerated tests for the evaluation of mold resistance of paint films (Ross), *JOM*, September, 594
 Acoustic fatigue, random load fatigue testing: a state of the art survey (Swanson), *MR&S*, April, 11
 Adam, L. H.:
 see Brandt, S. M., and Adam, L. H.
 and Dougherty, M.: Atmospheric exposure of wrought aluminum and magnesium alloys, Committee B-7, *Proc.* 1966
 Adamson, A. W.: Some aspects of the surface chemistry of adhesion and of friction, *STP* 431
 Adhesion
 adhesional behavior of air and ultrahigh vacuum formed silicate surfaces in relation to the moon (Ryan and Baker), *STP* 431
 adhesion of metals in high vacuum (Hordon), *STP* 431
 the analysis of metallic adhesion data (Keller), *STP* 431
 atomic surface structure of the common transition metals and the effect of adhesion as seen by field ion microscopy (Muller and Nishikawa), *STP* 431
 clean surfaces, their preparation and characterization (Roberts), *STP* 431
 cold welding of copper under ultrahigh vacuum (Conrad and Rice), *STP* 431
 definition and evaluation of parameters which influence the adhesion of metals (Gilbreath), *STP* 431
 flight reactor materials development, self-weld studies (Kellogg), *STP* 431
 the influence of crystal structure, orientation and solubility on the adhesion and sliding of various metal single crystals in vacuum (10^{-11} torr) (Buckley), *STP* 431
 some aspects of the surface chemistry of adhesion and of friction (Adamson), *STP* 431

space simulation testing of the adhesion of materials (Rittenhouse), *STP* 431
 a statistical method for the study of friction and wear in vacuum (Podlasek and Shen), *STP* 431
 Admixtures, the air entrainment test for cement (Dolch), *STP* 441
 Adsorption
 clean surfaces, their preparation and characterization (Roberts), *STP* 431
 some aspects of the surface chemistry of adhesion and of friction (Adamson), *STP* 431
 Aerial photography
 developments in remote sensing applicable to airborne engineering surveys of soils and rocks (Parker), *MR&S*, February, 22
 infrared sensing of soils and rocks (McLerran), *MR&S*, February, 17
 use of color aerial photography in the reconnaissance of soils and rocks (Anson), *MR&S*, February, 8
 Aerospace, systems testing—an aerospace management view (Johnson), *MR&S*, January, 9
 Aggregates
 evaluation techniques for structural quality synthetic aggregates (Das and Ledbetter), *JOM*, December, 824
 translucency of mineral aggregates for built-up roofs (Tibbetts and Robson), *JOM*, June, 455
 Ailor, W. H., Jr.:
 Performance of aluminum alloys at other test sites, *STP* 435
 see McGeary, F. L., Ailor, W. H., Jr., and Summerson, T. J.
 and Coburn, S. K.: Introduction, *STP* 435
 see Spatig, D. O., and Ailor, W. H.
 Air-entraining cements, the air entrainment test for cement (Dolch), *STP* 441
 Alderson, H. N.: see Thomas, H. E., and Alderson, H. N.
 Alkalies, significance of total and water-soluble alkali contents of portland cement (McCoy and Eshenour), *JOM*, September, 684
 Alloy steels
 effect of thermal and thermomechanical treatments on the temper embrittlement of low-alloy steels (Irani, May, and Elliott), *STP* 407

a fractographic analysis of the relationships between fracture toughness and surface topography in ultrahigh-strength steels (Spitzig, Pellissier, Beachem, Brothers, Hill, and Warke), *STP* 436
 long time isothermal embrittlement in 3.5Ni, 1.75Cr, 0.50Mo, 0.20C steel (Gould), *STP* 407
 stress-relief embrittlement of high-strength quenched and tempered alloy steels (Rosenstein and Asche), *STP* 407
 a study of temper embrittlement during stress relieving of 5Ni-Cr-Mo-V steels (Porter, Carter, and Manganello), *STP* 407
 the mechanism of temper brittleness (Capus), *STP* 407
 Alumina, fabrication and evaluation of sapphire whisker reinforced aluminum composites (Mehan), *STP* 438
 Aluminum
 atmospheric exposure of nonferrous metals and alloys—aluminum: seven-year data (McGeary, Summerson, and Ailor), *STP* 435
 effect of fiber orientation and morphology on the tensile behavior of Al₃Ni whisker reinforced aluminum (George, Ford, and Salkind), *STP* 438
 nonpropagating fatigue crack analysis in notched parts with compressive mean stress (Gerber and Fuchs), *JOM*, June, 359
 mechanical behavior of aluminum-boron composite material (Stuhrke), *STP* 438
 mechanical behavior of a fiber reinforced metal and its effect upon engineering applications (Cratchley, Baker, and Jackson), *STP* 438
 special fractographic techniques for failure analysis (Whiteson, Phillips, Kerlins, and Rawe), *STP* 436
 Aluminum alloys
 atmospheric corrosion of aluminum and its alloys: results of six-year exposure tests (Carter), *STP* 435
 atmospheric exposure of light metals (Brandt and Adam), *STP* 435
 atmospheric exposure of wrought aluminum and magnesium alloys (Adam and Dougherty), Committee B-7, *Proc.* 1966
 corrosion and fatigue studies of ex-

- truded 7075-T6 spar caps (Shaffer, Sebastian, Rosenfeld, and Ketcham), *JOM*, June, 400
- effects of cold working on the fatigue strength of heat-treated aluminum alloys: a review of ARL data and the literature (Lyst), *JOM*, December, 996
- fatigue behavior of rocket engine materials to -452 F (4 K) (Nachtigall, Klima, and Freche), *JOM*, June, 425
- fractography and microstructure of aluminum alloys 7075-T651 and 7075-T7351 (Hunter and McMillan), *STP* 436
- hard rolled aluminum alloys (Mattson and Lindgren), *STP* 435
- mechanical properties of beryllium filament-reinforced aluminum composites (Toy), *JOM*, March, 43
- performance of aluminum alloys at other test sites (Ailor), *STP* 435
- report of Subcommittee IV on atmospheric corrosion, Committee G-1, *Proc.* 1966
- strength calculations for sheet-metal parts with cracks (Kuhn), *MR&S*, September, 21
- Aluminum-boron, *in situ* measurement of deformation behavior of individual phases in composites by x-ray diffraction (Cheskis and Heckel), *STP* 438
- Aluminum-coated wire
- report of Subcommittee XV on the 1961 exposure test of aluminum-coated wire and wire products, Committee A-5, *Proc.* 1967
- report of Subcommittee XV on the 1961 exposure test of aluminum-coated wire and wire products, Committee A-5, *Proc.* 1968
- Anson, Abraham: The use of color aerial photography in the reconnaissance of soils and rocks, *MR&S*, February, 8
- Appliances, the growing need for product information to protect the American consumer (LaFollette), *MR&S*, August, 12
- Asche, W. H.: see Rosenstein, A. H., and Asche, W. H.
- Asphaltic concrete
- hardening of asphalt during production of asphaltic concrete mixes (Lee and Csanyi), *JOM*, September, 538
- water permeability of asphalt concrete specimens using back-pressure saturation (Vallerga and Hicks), *JOM*, March, 73
- Astin, A. V.: A time for action in international standardization, *MR&S*, May, 18
- ASTM, protecting standardization activities from antitrust activities: a 1968 view (Brooke), *MR&S*, July, 19
- Asunmaa, S. K.: see Tiner, N. A., and Asunmaa, S. K.
- Atmospheric corrosion, see Corrosion tests (atmospheric)
- Atmospheric corrosivity, corrosiveness of various atmospheric test sites as measured by specimens of steel and zinc (Committee G-1), *STP* 435
- Atmospheric factors, measurement of atmospheric factors affecting the corrosion of metals (Guttman and Sereda), *STP* 435
- Austenitic stainless steels
- high-strength turbo-generator retaining ring forgings of an age hardenable austenitic alloy (Fritz and DeForest), *JOM*, September, 629
- Rockwell hardness of annealed stable austenitic stainless steels (Ludwigson), *JOM*, September, 496
- Autoclaving, binders of autoclaved products (Kalousek and Kopanda), *JOM*, June, 304
- Automated testing
- advanced process chromatograph and modern petroleum plant analysis and control requirements (Wherry), *STP* 428
- automatic blending and inspection of lubricating oils at the refinery (Neilson), *STP* 428
- in-line gasoline blending trends, economics, and the use of continuous analyzers for quality control (Crane), *STP* 428
- instrumentation for quality assurance of petroleum products (Cropper), *STP* 428
- quality assurance in jet fuel transfer operations (Fritz), *STP* 428
- quality assurance in petroleum pipeline transfer operations (Mason), *STP* 428
- Automatic sequence testing, an automatic and recording torsion measuring apparatus (Scherr and Palm), *MR&S*, December, 13
- Automation, use of the AMEDA microscope in quantitative microscopy (Bayer, Denton, and Hassel), *STP* 430
- Automotive trim, a statistical evaluation of atmospheric, in-service, and accelerated corrosion of stainless steel automotive trim material (Black and Lherbier), *STP* 435
- ## B
- Babel, H. W., and Sines, G.: An improved method for uniaxial and biaxial testing of brittle material, *JOM*, March, 134
- Babitz, Menachem, Rocker, Arye, and Shavit-Stern, A. B.: Influence of light on the results of the ASTM copper strip corrosion test, *JOM*, September, 585
- Back-pressure saturation, water permeability of asphalt concrete specimens using back-pressure saturation (Vallerga and Hicks), *JOM*, March, 73
- Baer, Karin: see Petzow, Gunter, and Baer, Karin
- Bainite, yield and flow of tempered and prestrained and retempered martensite and bainite (DiCesare), *JOM*, June, 444
- Baker, A. A.: see Cratchley, D., Baker, A. A., and Jackson, P. W.
- Baker, G. S.: see Gerberich, W. W., and Baker, G. S.
- Baker, M. B.: see Ryan, J. A., and Baker, M. B.
- Baker, R. A.: Limitation of present objective techniques in sensory characterization, *STP* 440
- Banerjee, B. R., Hauser, J. J., and Capenos, J. M.: Relation of strength and toughness to fine structures in a beta titanium alloy, *STP* 432
- Baroch, C. J.: see Harbinson, E. N., and Baroch, C. J.
- Bastien, P. G.: see Comon, J., Bastien, P. G., and Martin, P. F.
- Bayer, J. L., Denton, G. H., and Hassel, R. E.: Use of the AMEDA microscope in quantitative microscopy, *STP* 430
- Beachem, C. D.: Introduction, *STP* 436
- see Spitzig, W. A., Beachem, C. D., Pellissier, G. E., Brothers, A. J., Hill, M., and Warke, W. R.
- and Meyn, D. A.: Fracture by microscopic plastic deformation processes, *STP* 436
- Bearing capacity, pile-soil-interactions during vibro-pile-driving (Bernhard), *JOM*, March, 178
- Behun, M. F.: see Smith, G. V., and Behun, M. F.
- Bennett, C. P. (discussion), *MR&S*, April, 45
- Bennett, J. A.: see Shives, T. R., and Bennett, J. A.
- Benning, F. N.: Simulation of average sea level sunlight (air mass two), *JOM*, September, 571
- Bernett, F. E.: Effects of mortar shrinkage on ceramic tile installations, *JOM*, September, 672
- Bernhard, R. K.: Pile-soil-interactions during vibro-pile-driving, *JOM*, March, 178
- Beryllium, fracture toughness of beryllium (Harris and Dunegan), *JOM*, March, 59
- Binders, of autoclaved products (Kalousek and Kopanda), *JOM*, June, 304
- Biodeterioration
- accelerated tests for the evaluation of mold resistance of paint films (Ross), *JOM*, September, 594
- information background in the field of biological deterioration of non-metallic materials (Wessel), *MR&S*, September, 10
- Biological compatibility, progress in metallic surgical implants (Schmeisser), *JOM*, December, 951
- Birks, L. S., Gilfrich, J. V., and Yakowitz, H.: Report of the Washington electron probe users' group, *STP* 430
- Bitumin, evaluation techniques for structural quality synthetic aggregates (Das and Ledbetter), *JOM*, December, 824
- Black, H. L., and Lherbier, L. W.: A statistical evaluation of atmospheric, in-service, and accelerated corrosion of stainless steel automotive trim material, *STP* 435
- Blaine, R. L.: see Foster, B. E., and Blaine, R. L.
- Blanks, B. L., Edenborough, N. B., Elliott, D. E., and Ford, R. M.: Nondestructive testing of graphite at the Los Alamos scientific laboratory, *STP* 439
- Bogart, Harold N.: The long view . . . president Bogart, enthusiasm and standardization, *MR&S*, August, 8
- Bonding efficiency, mechanical properties and bonding efficiency of steel composites (Hickey), *JOM*, March, 3
- Borehole cameras, (Lundgren, Sturges, and Cluff), *MR&S*, August, 17
- Boron
- irradiation effects in Fortiweld steel containing different boron isotopes (Grounes), *JOM*, September, 614
- the mechanical behavior of aluminum-boron composite material (Stuhrke), *STP* 438
- Boron aluminum composites, micro-mechanics of boron filament reinforced aluminum composites (Lenoe), *STP* 438
- Bowen, J. H.: see Minuti, D. V., and Bowen, J. H.
- Boyd, W. K.: see Jackson, J. D., and Boyd, W. K.
- Brandt, S. M., and Adam, L. H.: Atmospheric exposure of light metals, *STP* 435
- Bricks, clayey soil-lime specimens hardened by steam (Mateos), *JOM*, June, 294
- Bridge deck deterioration, a systems approach to analysis of hardened concrete (Larson and Cady), *MR&S*, October, 8
- Briggs, C. W.: Atmospheric corrosion of carbon and low alloy cast steels, *STP* 435
- Brittle fracture
- improved method for uniaxial and

- biaxial testing of brittle materials (Babel and Sines), *JOM*, March, 134
- mechanism of temper brittleness (Capus), *STP* 407
- strain-energy and size effects in a brittle material (Glucklich and Cohen), *MR&S*, October, 17
- temper embrittlement in high purity 3.5Ni, 1.75Cr, 0.20C steel (Gould), *STP* 407
- Brooke, Morris R.: Protecting standardization activities from antitrust problems: a 1968 view, *MR&S*, July, 19
- Brothers, A. J., and Yukawa, S.: Engineering applications of fractography, *STP* 436
- see Spitzig, W. A., Brothers, A. J., Pellissier, G. E., Beachem, C. D., Hill, M., and Warke, W. R.
- Brown, J. D.: New applications of electron probe microanalysis, *STP* 430
- Brown, W. F., Jr.: see Shannon, J. L., Jr., and Brown, W. F., Jr.
- Buckley, D. H.: The influence of crystal structure, orientation and solubility on the adhesion and sliding of various metal single crystals in vacuum (10^{-11} torr), *STP* 431
- Bunnell, L. R.: Contact microradiography of graphite, *STP* 439
- (discussion), *STP* 439
- Burghard, H. C., Jr., and Stoloff, N. S.: Cleavage phenomena and topographic features, *STP* 436
- Burte, H. M., and Lynch, C. T.: The technical potential for metal matrix composites, *STP* 438
- Byrne, F. P., Nadalin, R. J., Penkrot, J., Rudolph, J. S., and Wolfe, C. R.: Analysis of rotor steels for residual elements, *STP* 407

C

- Cadmium plating, special fractographic techniques for failure analysis (Whitson, Phillips, Kerlins, and Rawe), *STP* 436
- Cady, P. D.: see Larson, T. D., and Cady, P. D.
- Calcium compounds, the drying of plaster of paris at temperatures between 21 and 37 C (Hancox), *JOM*, March, 153
- Calcium silicate hydrates, binders of autoclaved products (Kalousek and Kopanda), *JOM*, June, 304
- Calibration, electrical conductivity measurement standards (Jones), *MR&S*, November, 8
- Capenos, J. M.: see Banerjee, B. R., Capenos, J. M., and Hauser, J. J.
- Caplan, I. L., and Zwilsky, K. M.: Investigation of the notch sensitivity of nickel-copper-aluminum alloy rod, *JOM*, June, 375
- Capus, J. M.: The mechanism of temper brittleness, *STP* 407
- Carbon steels, atmospheric corrosion of carbon and low alloy cast steels (Briggs), *STP* 435
- Carman, C. M., and Katlin, J. M.: Plane strain fracture toughness and mechanical properties of 5Al-2.5Sn ELI and commercial titanium alloys at room and cryogenic temperatures, *STP* 432
- Carr, F. L., Nunes, J., and Larson, F. R.: Mechanical properties and fracture surface topography of a thermally embrittled steel, *STP* 407
- Carter, G. C.: see Porter, L. F., Carter, G. C., and Manganello, S. J.
- Carter, V. E.: Atmospheric corrosion of aluminum and its alloys: results of six-year exposure tests, *STP* 435
- Cavallaro, J. L.: see Lane, I. R., and Cavallaro, J. L.
- Cellular concrete, relationship between microvoid structure and volumetric changes of plastic cellular concrete (McCormick and Euyen), *JOM*, March, 87
- Cement, portland
- early hydration reactions of abnormal setting portland cement (Jugovic and Gillam), *JOM*, September, 517
 - potential compound composition of portland cement clinker (Hansen), *JOM*, March, 100
 - significance of total and water-soluble alkali contents of portland cement (McCoy and Eshenour), *JOM*, September, 684
- Cement additives, the air entrainment test for cement (Dolch), *STP* 441
- Cement bleeding, bleeding of cement: its significance in concrete (Mardulier), *STP* 441
- Cement strength, a comparison of ISO and ASTM tests for cement strength (Foster and Blaine), *STP* 441
- Ceramics, an improved method for uniaxial and biaxial testing of brittle materials (Babel and Sines), *JOM*, March, 134
- Chalfant, W. E.: Introduction, *STP* 428
- (discussion), *STP* 428
- Chemical analysis
- of rotor steels for residual elements (Byrne, Nadalin, Penkrot, Rudolph, and Wolfe), *STP* 407
 - delayed hydration in white-coat plaster: comparison of different methods of analysis (Ramachandran, Sereda, and Feldman), *MR&S*, January, 24
- Chen, P. E.: see Nielsen, L. E., and Chen, P. E.
- Cheskis, H. P., and Heckel, R. W.: *In situ* measurement of deformation behavior of individual phases in composites by x-ray diffraction, *STP* 438
- Chromium ferritic steels, report of Subcommittee VI on thermal embrittlement of medium- and high-chromium ferritic steels, Committee A-10, *Proc.* 1967
- Clay
- consolidation of partially saturated kaolinite and black cotton soil (Reddy and Joy), *JOM*, June, 256
 - strain rate influence on shear strength characteristics of a saturated kaolinitic clay (Nagaraj), *JOM*, March, 210
- Cleaning, detection and removal of iron contamination from stainless steel surfaces (Lackey and Streicher), *JOM*, December, 983
- Cleavage (crystallographic) phenomena and topographic features (Burghard and Stoloff), *STP* 436
- Closed loop testing
- effect of cyclic stressing on the yield behavior of vacuum melted iron (Stephens), *JOM*, June, 386
 - random load fatigue testing (Swanson), *MR&S*, April, 11
- Cluff, L. S.: see Lundgren, Raymond, Sturges, F. C., and Cluff, L. S.
- Coatings
- performance of decorative copper-nickel-chromium coatings on zinc alloy die castings, Committee B-8, *Proc.* 1966
 - report of Subcommittee XIV on field tests of atmospheric corrosion of metallic-coated steel panels, Committee A-5, *Proc.* 1966
- Coburn, S. K.: see Ailor, W. H., and Coburn, S. K.
- Cohen, L. J.: see Glucklich, Joseph, and Cohen, L. J.
- Cohen, M.: see Wolfe, G. F., and Cohen, M.
- Cold working
- effect of composition on heat-affected-zone notched rupture strength of a stainless steel (Hull), *JOM*, June, 239
 - the effects of cold working on the fatigue strength of heat-treated aluminum alloys: a review of ARL data and the literature (Lyst), *JOM*, December, 996
 - properties of cold-reduced 300-grade 18Ni maraging steel (Spaeder and Murphy), *JOM*, March, 116
- Colorimetric analysis, determination of a polyhydroxy carboxylic acid retarder in hardened concrete (Frederick and Ellis), *MR&S*, March, 14
- Committee A-5
- Report of Subcommittee XIV on field tests of atmospheric corrosion of metallic-coated steel panels, *Proc.* 1966, *Proc.* 1967, *Proc.* 1968
 - Report of Subcommittee XV on the 1961 exposure test of aluminum-coated wire and wire products, *Proc.* 1967, *Proc.* 1968
 - Report of Subcommittee XVI on field tests of atmospheric corrosion of hardware, *Proc.* 1966, *Proc.* 1967, *Proc.* 1968
- Committee A-10: Report of Subcommittee VI on thermal embrittlement of medium- and high-chromium ferritic steels, *Proc.* 1967
- Committee B-7: Atmospheric exposure of wrought aluminum and magnesium alloys (Adam and Dougherty), *Proc.* 1966
- Committee B-8: Performance of decorative copper-nickel-chromium coatings on zinc alloy die castings, *Proc.* 1966
- Committee C-1: Report of Subcommittee on volume change, *Proc.* 1968
- Committee E-4 History, a mid-century of metallography—retrospect and aspect (Wyman), *STP* 430
- Committee E-18
- Historical background (Danker), *STP* 433
 - Manual on sensory testing methods, *STP* 434
- Committee G-1
- Corrosiveness of various atmospheric test sites as measured by specimens of steel and zinc, *STP* 435
 - Report of Subcommittee IV on atmospheric corrosion, *Proc.* 1966
- Comon, J., Martin, P. F., and Bastien, P. G.: Statistical study of factors influencing impact strength of turbine generator rotors—influence of temper embrittlement, *STP* 407
- Composite materials
- deformation of wire reinforced metal matrix composites (Jones), *STP* 438
 - effect of fiber orientation and morphology on the tensile behavior of Al₃Ni whisker reinforced aluminum (George, Ford, and Salkind), *STP* 438
 - evaluating potential fatigue performance of composites (Cu/W and Cu/Mo) from microstructural behavior (Gates and Wood), *STP* 438
 - fabrication and evaluation of sapphire whisker reinforced aluminum composites (Mehan), *STP* 438
 - in situ* measurement of deformation behavior of individual phases in composites by x-ray diffraction (Cheskis and Heckel), *STP* 438
 - mechanical behavior of a fiber reinforced metal and its effect upon

- engineering applications (Cratchley, Baker, and Jackson), *STP 438*
- mechanical behavior of aluminum-boron composite material (Stuhrke), *STP 438*
- mechanical properties and bonding efficiency of steel composites (Hickey), *JOM*, March, 3
- mechanical properties of beryllium filament-reinforced aluminum composites (Toy), *JOM*, March, 43
- plastic yielding and strain distribution in filament-reinforced metals (Hancock and Grosskreutz), *STP 438*
- technical potential for metal matrix composites (Burte and Lynch), *STP 438*
- Young's modulus of composites filled with randomly oriented fibers (Nielsen and Chen), *JOM*, June, 352
- Compression test**
- strain-energy and size effects in a brittle material (Glucklich and Cohen), *MR&S*, October, 17
- an improved method for uniaxial and biaxial testing of brittle materials (Babel and Sines), *JOM*, March, 134
- Compressive strength**
- effect of core diameter on measured concrete strength (Meininger), *JOM*, June, 320
- temperature-dependent strength characteristics of sand-asphalt mixtures (Pagen and Khosla), *JOM*, September, 501
- Computers, computerized long-term corrosion data (Spatig and Ailor), *STP 435***
- Concrete**
- attenuation of x-rays and gamma rays in concrete (Foster), *MR&S*, March, 19
- bleeding of cement: its significance in concrete (Magdulier), *STP 441*
- effect of core diameter on measured concrete strength (Meininger), *JOM*, June, 320
- evaluation techniques for structural quality synthetic aggregates (Das and Ledbetter), *JOM*, December, 824
- low-radioactivity concrete (Wollenberg and Smith), *JOM*, December, 757
- a systems approach to analysis of hardened concrete (Larson and Cady), *MR&S*, October, 8
- Concrete admixtures, determination of a polyhydroxy carboxylic acid retarder in hardened concrete (Frederick and Ellis), *MR&S*, March, 14**
- Conductivity measurement standards, electrical conductivity measurement standards (Jones), *MR&S*, November, 8**
- Conductors, reversed bending fatigue characteristics of copper-clad steel conductors (Fox), *JOM*, March, 32**
- Conrad, H., and Rice, L.: Cold welding of copper under ultra-high vacuum, *STP 431*
- Construction material**
- evaluation techniques for structural quality synthetic aggregates (Das and Ledbetter), *JOM*, December, 824
- soil as an engineering material (Holtz), *JOM*, December, 847
- Consumers**
- a time for action in international standardization (Astin), *MR&S*, May, 18
- is there a future for voluntary standardization? (Mardulier), *MR&S*, May, 25
- the growing need for product information to protect the American consumer (LaFollette), *MR&S*, August, 12
- Contamination, detection and removal of iron contamination from stainless steel surfaces (Lackey and Streicher), *JOM*, December, 983**
- Copper and copper alloys**
- atmospheric corrosion of copper alloys (Thompson), *STP 435*
- cold welding of copper under ultra-high vacuum (Conrad and Rice), *STP 431*
- copper and copper alloys (Mattsson and Holm), *STP 435*
- influence of light on the results of the ASTM copper strip corrosion test (Babitz, Rocker, and Shavit-Stern), *JOM*, September, 585
- measurement of atmospheric factors affecting the corrosion of metals (Guttman and Sereda), *STP 435*
- report of Subcommittee IV on atmospheric corrosion, Committee G-1, *Proc. 1966*
- Copper-nickel alloys, thermal conductivity of cupro-nickel alloys at elevated temperatures (Willett), *JOM*, December, 744
- Copper-nickel-chromium, performance of decorative copper-nickel-chromium coatings on zinc alloy die castings, Committee B-8, *Proc. 1966*
- Copper-steel wire, reversed bending fatigue characteristics of copper-clad steel conductors (Fox), *JOM*, March, 32
- Copper tungsten**
- evaluating potential fatigue performance of composites (Cu/W and Cu/Mo) from microstructural behavior (Gates and Wood), *STP 438*
- in situ measurement of deformation behavior of individual phases in composites by x-ray diffraction (Cheskin and Heckel), *STP 438*
- Copson, H. R.: see van Rooyen, D., and Copson, H. R.
- Corn, D. L.: see Frederick, S. F., and Corn, D. L.
- Corrosion**
- crevice corrosion of titanium (Jackson and Boyd), *STP 432*
- influence of light on the results of the ASTM copper strip corrosion test (Babitz, Rocker, and Shavit-Stern), *JOM*, September, 585
- progress in metallic surgical implants (Schmeisser), *JOM*, December, 951
- Corrosion tests (atmospheric)**
- aluminum alloys stress corrosion testing (Romans and Craig), *STP 435*
- aluminum and its alloys: results of six-year exposure tests (Carter), *STP 435*
- aluminum (wrought) and magnesium alloys (Adam and Dougherty), Committee B-7, *Proc. 1966*
- aluminum alloy performance at other test sites (Ailor), *STP 435*
- aluminum alloys, hard rolled (Mattsson and Lindgren), *STP 435*
- atmospheric factors affecting the corrosion of metals (Guttman and Sereda), *STP 435*
- atmospheric factor effects on the corrosion of rolled zinc (Guttman), *STP 435*
- carbon and low alloy cast steels (Briggs), *STP 435*
- computerized long-term corrosion data (Spatig and Ailor), *STP 435*
- copper and copper alloys (Mattsson and Holm), *STP 435*
- copper alloys corrosion (Thompson), *STP 435*
- corrosiveness of 41 test sites as measured by specimens of steel and zinc (Committee G-1), *STP 435*
- ferrous metals corrosion test results after seven-years atmospheric exposure (Mannweiler), *STP 435*
- hardware, report of Subcommittee XVI on field tests of atmospheric corrosion of Committee A-5, *Proc. 1966, Proc. 1967, Proc. 1968*
- light metals (Brandt and Adam), *STP 435*
- metallic-coated steel, report of Subcommittee XIV on field tests of atmospheric corrosion of panels, Committee A-5, *Proc. 1966, Proc. 1967, Proc. 1968*
- mild steel corrosion rates in coastal, industrial, and inland areas of northern California (Thomas and Alderson), *STP 435*
- nickel alloys (van Rooyen and Copson), *STP 435*
- nonferrous alloys, report of Subcommittee IV on atmospheric corrosion, Committee G-1, *Proc. 1966*
- nonferrous metals and alloys—aluminum: seven-year data (McGeary, Summerson, and Ailor), *STP 435*
- statistical evaluation of atmospheric, in-service, and accelerated corrosion of stainless steel automotive trim material (Black and Lherbier), *STP 435*
- titanium-base alloy resistance to atmospheric corrosion (Greenlee and Plock), *STP 435*
- zinc, effect of one percent copper addition on the atmospheric corrosion of rolled zinc (Dunbar), *STP 435*
- Cox, T. B.: see Eckel, J. F., and Cox, T. B.
- Coyle, H. M., and Shiffert, J. B.: Manufactured soil samples for laboratory research, *JOM*, June, 272
- Cracks, strength calculations for sheet-metal parts with cracks (Kuhn), *MR&S*, September, 21
- Cracking (fracturing)**
- analysis of nonpropagating fatigue cracks in notched parts with compressive mean stress (Gerber and Fuchs), *JOM*, June, 359
- effects of a 3.5 percent sodium chloride aqueous saline environment on the fatigue crack propagation characteristics of titanium alloys (Crooker and Lange), *STP 432*
- new technique for initiating fatigue precracks in fracture specimens (D'Annessa and Owens), *JOM*, June, 312
- review of factors influencing the crack tolerance of titanium alloys (Shannon and Brown), *STP 432*
- Crack initiation, the initiation of hot-salt stress corrosion cracking of titanium alloys (Rideout), *STP 432***
- Craig, H. L., Jr.: see Romans, H. B., and Craig, H. L., Jr.
- Crane, B. G.: In-line gasoline blending trends, economics, and the use of continuous analyzers for quality control, *STP 428*
- Cratchley, D., Baker, A. A., and Jackson, P. W.: Mechanical behavior of a fiber reinforced metal and its effect upon engineering applications, *STP 438*
- Creep, nonlinear combined stress creep experiments on rigid polyurethane foam with application to multiple integral and modified superposition theory (Findley and Stanley), *JOM*, December, 916
- Creep rupture**
- engineering applications of fractography (Brothers and Yukawa), *STP 436*

mechanical properties of beryllium filament-reinforced aluminum composites (Toy), *JOM*, March, 43

Cress, H. A.: see Kaiser, W. D., and Cress, H. A.

Criss, J. W.: Progress in quantitative electron probe microanalysis, *STP* 430

Crooker, T. W., and Lange, E. A.: Effects of a 3.5 percent sodium chloride aqueous saline environment on the fatigue crack propagation characteristics of titanium alloys, *STP* 432

Cropper, W. V.: Instrumentation for quality assurance of petroleum products, *STP* 428 (discussion), *STP* 428

Cryogenics, fatigue behavior of rocket engine materials to -452 F (4 K) (Nachtigall, Klima, and Freche), *JOM*, June, 425

Crystallography
the case for a universal x-ray diffraction intensity scale (Scott), *STP* 430

electron microscopy applied to a unidirectionally solidified Al-Al₃Ni eutectic alloy (Tice, Lasko, and Lemkey), *STP* 430

evaluation study of various standard x-ray powder diffraction techniques (Thomassen, Rinn, and Hanawalt), *STP* 430

Csanady, M., and Horwitz, D. (discussion), *STP* 437

Csanyi, L. H.: see Lee, D. Y., and Csanyi, L. H.

Cumulative damage, investigation of a random cumulative damage theory (Sweet and Kozin), *JOM*, December, 802

Curing, size effects in gypsum mortars (White and Sabnis), *JOM*, March, 163

Cylinders, an improved method for the determination of torsional and flexural resonance frequencies of cylindrical specimens (Dickson and Spinner), *JOM*, September, 716

D

Danker, W. H.:
Historical background for ASTM Committee E-18, *STP* 433

Introduction, *STP* 433

see Foster, Dean, and Danker, W. H.

see McNamara, B. P., and Danker, W. H.

D'Annessa, A. T., and Owens, J. S.: New techniques for initiating fatigue precracks in fracture specimens, *JOM*, June, 312

Darby, R. L., and Veazie, W. H.: Writing a state-of-the-art report, *MR&S*, May, 28

Das, S. K., and Ledbetter, W. B.: Evaluation techniques for structural quality synthetic aggregates, *JOM*, December, 824

Data systems, progress in x-ray diffraction data compilations (McMurdie), *STP* 430

Davison, J. I.: see Ritchie, T., and Davison, J. I.

Dawson, P. H., and Fidler, F. (discussion), *STP* 437

Day, C. K.: see Green, D. R., and Day, C. K.

Defect detection, application of alcohol penetrant for evaluation of surface porosity of graphite inserts for rocket nozzles (Hendron), *STP* 439

DeForest, D. R.: see Fritz, K. E., and DeForest, D. R.

DeHoff, R. T.: Quantitative microstructural analysis, *STP* 430

Denton, G. H.: see Bayer, J. L., Denton, G. H., and Hassel, R. E.

DiCesare, Eugene:
Prestrain and retemper of martensitic and bainitic 4340 steel, *JOM*, September, 559

Yield and flow of tempered and prestrained and retempered martensite and bainite, *JOM*, June, 444

Dickson, R. W., and Spinner, S.: An improved method for the determination of torsional and flexural resonance frequencies of cylindrical specimens, *JOM*, September, 716

Dietz, J. M. (discussion), *STP* 428

Differential thermal analysis
delayed hydration in white-coat plaster: comparison of different methods of analysis (Ramachandran, Sereda, and Feldman), *MR&S*, January, 24

early hydration reactions of abnormal setting portland cement (Jugovic and Gillam), *JOM*, September, 517

Dimensional measurements, dimensional stability of gage block materials (Meyerson, Giles, and Newfeld), *JOM*, December, 727

Dise, J. R.: Significance of the test for normal consistency of hydraulic cement, *STP* 441

Doehrlert, D. H.: Methods for measuring degree of subjective response, *STP* 433

Dolch, W. L.: The air entrainment test for cement (Dolch), *STP* 441

Dougherty, M.: see Adam, L. H., and Dougherty, M.

Dugoff, H. J.: see Segel, Leonard, Dugoff, H. J., and Ludema, K. C.

Dunbar, S. R.: Effect of one percent copper addition on the atmospheric corrosion of rolled zinc, *STP* 435

Dunegan, H. L.: see Harris, D. O., and Dunegan, H. L.

E

Early hydration reactions, of abnormal setting portland cement (Jugovic and Gillam), *JOM*, September, 517

Earthquakes, soil as an engineering material (Holtz), *JOM*, December, 847

Eberhard, J. P.: Systems and design—an extrapolation to 2000 A. D., *MR&S*, May, 12

Eddy currents, electrical conductivity measurement standards (Jones), *MR&S*, November, 8

Edenborough, N. B.: see Blanks, B. L., Edenborough, N. B., Elliott, D. E., and Ford, R. M.

Eckel, J. F., and Cox, T. B.: Temperature dependence of the solid solubility of nitrogen in AISI Type 304 stainless steel, *JOM*, September, 605

Electron fractography, relation of strength and toughness to fine structures in a beta titanium alloy (Banerjee, Hauser, and Capenos), *STP* 432

Electron microscopes
application of hot-stage transmission electron microscopy to study of physical metallurgy (Laird), *STP* 430

cleavage phenomena and topographic features (Burghard and Stoloff), *STP* 436

effect of carbon content on transformation structures of iron-22 percent nickel alloys (Mihalisin), *STP* 430

engineering applications of fractography (Brothers and Yukawa), *STP* 436

environmental effects on fracture morphology (Nielsen), *STP* 436

fatigue study application (McMillan and Hertzberg), *STP* 436

fractography, electron—tools and techniques (McCall), *STP* 436

fractographic techniques for failure analysis (Whiteson, Phillips, Kerlins, and Rowe), *STP* 436

fractography and microstructure of aluminum alloys 7075-T651 and 7075-T7351 (Hunter and McMillan), *STP* 436

fracture by microscopic plastic deformation processes (Beachem and Meyn), *STP* 436

metallography, present status (Gray), *STP* 430

microstructure study of an iron-nickel base heat-resistant alloy containing cobalt (Maniar and James), *STP* 430

techniques for electron microscopic fractography (Warke, Nielsen, Hertzberg, Hunter, and Hill), *STP* 436

thin foil utilization as applied to a unidirectionally solidified Al-Al₃Ni eutectic alloy (Tice, Lasko, and Lemkey), *STP* 430

Electron microprobe analysis
new applications of electron probe microanalysis (Brown), *STP* 430

progress in quantitative electron probe microanalysis (Criss), *STP* 430

report of the Washington electron probe users' group (Birks, Gilfrich, and Yakowitz), *STP* 430

scanning electron probe microanalysis (Heinrich), *STP* 430

Elevated-temperature properties, computer assisted preparation of new data series publication (Moon), *MR&S*, September, 18

Elliott, D.: see Irani, J. J., Elliott, D., and May, M. J.

Elliott, D. E.: see Blanks, B. L., Elliott, D. E., Edenborough, N. B., and Ford, R. M.

Ellis, J. T.: see Frederick, W. L., and Ellis, J. T.

Embrittlement
effect of torsional prestrain on the embrittlement of mild steel (Theocaris and Samaras), *JOM*, December, 780

influence of composition and heat treatment on the aqueous-stress corrosion of titanium (Seagle, Seeley, and Hall), *STP* 432

metallurgical and mechanical aspects of the seawater stress corrosion of titanium (Lane and Cavallaro), *STP* 432

Emission, infrared testing of bonds between graphite and protective coatings (Green and Day), *STP* 439

Environment
effect of environment on the fatigue properties of selected engineering alloys (Shives and Bennett), *JOM*, September, 695

simulation of average sea level sunlight (Benning), *JOM*, September, 571

Eshenour, O. L.: see McCoy, W. J., and Eshenour, O. L.

Euyen, E. J. A.: see McCormick, F. C., and Euyen, E. J. A.

Evaluation
new areas for tire performance methods (Segel, Ludema, and Dugoff), *MR&S*, June, 10

predicting the fatigue performance of tires (Kovac and O'Neil), *MR&S*, June, 27

prestrain and retemper of martensitic and bainitic 4340 steel (DiCesare), *JOM*, September, 559

- real life simulation—a challenge to over-the-road tire testing (Hodges), *MR&S*, June, 20
- Rockwell hardness of annealed stable austenitic stainless steels (Ludwigson), *JOM*, September, 496
- voluntary standardization is there a future? (Mardulier), *MR&S*, May, 25
- Evans, E. M., and Fowle, T. I.: An investigation of wire-wool type turbine thrust bearing failures, *STP 437*
- Exposure tests, see Corrosion tests (atmospheric)
- Extrusion, soil, manufactured soil samples for laboratory research (Coyle and Shiffert), *JOM*, June, 272

F

- Fabrication, effects of elevated temperature tensile straining on sheet metals (Gottbrath), *MR&S*, March, 25
- Fanelli, L. H., and McKown, R. D.: Prediction of strength of graphitic material by nondestructive test techniques, *STP 439*
- Fatigue
- analysis of nonpropagating fatigue cracks in notched parts with compressive mean stress (Gerber and Fuchs), *JOM*, June, 359
 - application of electron fractography to fatigue studies (McMillan and Hertzberg), *STP 436*
 - broad-band, random-load fatigue testing facility (Hillberry and Johnson), *JOM*, March, 18
 - corrosion and fatigue studies of extruded 7075-T6 spar caps (Shaffer, Sebastian, Rosenfeld, and Ketcham), *JOM*, June, 400
 - effect of cyclic stressing on the yield behavior of vacuum melted iron (Stephens), *JOM*, June, 386
 - effect of environment on the fatigue properties of selected engineering alloys (Shives and Bennett), *JOM*, September, 695
 - effects of a 3.5 percent sodium chloride aqueous saline environment on the fatigue crack propagation characteristics of titanium alloys (Crooker and Lange), *STP 432*
 - effects of cold working on the fatigue strength of heat-treated aluminum alloys: a review of ARL data and the literature (Lyst), *JOM*, December, 996
 - engineering applications of fractography (Brothers and Yukawa), *STP 436*
 - fatigue behavior of rocket engine materials to -452 F (4 K) (Nachtigall, Klima, and Freche), *JOM*, June, 425
 - investigation of a random cumulative damage theory (Sweet and Kozin), *JOM*, December, 802
 - mechanical properties of beryllium filament-reinforced aluminum composites (Toy), *JOM*, March, 43
 - new technique for initiating fatigue precracks in fracture specimens (D'Annessa and Owens), *JOM*, June, 312
 - progress in metallic surgical implants (Schmeisser), *JOM*, December, 951
 - reversed bending fatigue characteristics of copper-clad steel conductors (Fox), *JOM*, March, 32
 - surface treatment of Ti-6Al-4V for impact-fatigue and wear resistance (Weltzin and Koves), *STP 432*
 - smooth specimen simulation of fa-

- tigue behavior of notches (Wetzel), *JOM*, September, 646
- Fatigue testing

 - random load fatigue testing: a state of the art survey (Swanson), *MR&S*, April, 11
 - impact-fatigue testing of titanium alloys (Weltzin and Koves), *JOM*, September, 469
 - testing machine, simple, high-capacity, rotating-load (Kaiser and Cress), *MR&S*, January, 12

- Federal standards, a survey of portland cement specifications of the United States of America (Gilliland), *STP 441*
- Feldman, R. F.: see Ramachandran, V. S., Feldman, R. F., and Sereda, P. J.
- Ferrous alloys

 - corrosion test results on fifteen ferrous metals after seven-years atmospheric exposure (Mannweiler), *STP 435*
 - environmental effects on fracture morphology (Nielsen), *STP 436*

- Fibers

 - Young's modulus of composites filled with randomly oriented fibers (Nielsen and Chen), *JOM*, June, 352
 - see Metal matrix composites

- Fidler, F.: see Dawson, P. H., and Fidler, F.
- Field tests, see Corrosion tests (atmospheric)
- Filament winding, mechanical behavior of a fiber reinforced metal and its effect upon engineering applications (Cratchley, Baker, and Jackson), *STP 438*
- Films, anisotropy of Mylar A sheets (Ishai, Weller, and Singer), *JOM*, June, 337
- Findley, W. N., and Stanley, C. A.: Non-linear combined stress creep experiments on rigid polyurethane foam with application to multiple integral and modified superposition theory, *JOM*, December, 916
- Fisher, C. P.: see Smith, P. C., Fisher, C. P., Johnson, A. I., and Womack, L. M.
- Fitzpatrick, J. M.: Strain-hardening characteristics of four new steels and a titanium alloy, *JOM*, December, 977
- Flavor

 - basic principles of sensory evaluation, *STP 433*
 - correlation of objective-subjective methods as applied in the food field (Sjöström), *STP 440*
 - correlation of objective-subjective methods as applied to the perfumery and cosmetics industries (Langenau), *STP 440*
 - limitation of present objective techniques in sensory characterization (Baker), *STP 440*
 - Manual on sensory testing methods, *STP 434*

- Floors, significant variables affecting results obtained with the James friction machine (Gavan and Vanaman), *MR&S*, November, 16
- Flow (of materials), yield and flow of tempered and prestrained and re-tempered martensite and bainite (Di-Cesare), *JOM*, June, 444
- Flow properties, mechanical properties and fracture surface topography of a thermally embrittled steel (Carr, Nunes, and Larson), *STP 407*
- Foods, correlation of objective-subjective methods as applied in the food field (Sjöström), *STP 440*
- Ford, J. A.: see George, F. D., Ford, J. A., and Salkind, M. J.
- Ford, R. M.: see Blanks, B. L., Ford, R. M., Edenborough, N. B., and Elliott, D. E.

- Foster, B. E.: Attenuation of x-rays and gamma rays in concrete, *MR&S*, March, 19
- and Blaine, R. L.: A comparison of ISO and ASTM tests for cement strength, *STP 441*
- Foster, D.: Limitations of subjective measurement of odors, *STP 440*
- and Danker, W. H.: The nature of stimuli, *STP 433*
- Fouling organisms, the information background in the field of biological deterioration of nonmetallic materials, (Wessel), *MR&S*, September, 10
- Foundations, soil as an engineering material (Holtz), *JOM*, December, 847
- Fowle, T. I.: see Evans, E. M., and Fowle, T. I.
- Fox, Alfred: Reversed bending fatigue characteristics of copper-clad steel conductors, *JOM*, March, 32
- Fracture

 - application of electron fractography to fatigue studies (McMillan and Hertzberg), *STP 436*
 - cleavage phenomena and topographic features (Burghard and Stoloff), *STP 436*
 - engineering applications of fractography (Brothers and Yukawa), *STP 436*
 - environmental effects on fracture morphology (Nielsen), *STP 436*
 - fractography and microstructure of aluminum alloys 7075-T651 and 7075-T7351 (Hunter and McMillan), *STP 436*
 - fracture by microscopic plastic deformation processes (Beachem and Meyn), *STP 436*
 - special fractographic techniques for failure analysis (Whiteson, Phillips, Kerlins, and Rawe), *STP 436*

- Fracture properties

 - analysis of the relationships between fracture toughness and surface topography in ultrahigh-strength steels (Spitzig, Pellissier, Beachem, Brothers, Hill, and Warke), *STP 436*
 - electron fractography—tools and techniques (McCall), *STP 436*
 - fracture toughness of beryllium (Harris and Dunegan), *JOM*, March, 59
 - plane strain fracture toughness and mechanical properties of 5Al-2.5Sn ELI and commercial titanium alloys at room and cryogenic temperatures (Carman and Katlin), *STP 432*
 - properties of cold-reduced 300-grade 18Ni maraging steel (Spaeder and Murphy), *JOM*, March, 116
 - relation of strength and toughness to fine structures in a beta titanium alloy (Banerjee, Hauser, and Capenos), *STP 432*
 - sources of fracture toughness: the relation between K_{IC} and the ordinary tensile properties of metals (Hahn and Rosenfield), *STP 432*
 - strain-energy and size effects in a brittle material (Glucklich and Cohen), *MR&S*, October, 17
 - technique for initiating fatigue precracks in fracture specimens (D'Annessa and Owens), *JOM*, June, 312
 - techniques for electron microscopic fractography (Warke, Nielsen, Hertzberg, Hunter, and Hill), *STP 436*
 - texture strengthening and fracture toughness of titanium alloy sheet at room and cryogenic temperatures (Sullivan), *STP 432*

toughness of two-phase 6Al-4V titanium microstructures (Gerberich and Baker), *STP 432*

Freche, J. C.: see Nachtigall, A. J., Freche, J. C., and Klima, S. J.

Frederick, S. F., and Corn, D. L.: Biaxial properties of titanium alloys at cryogenic temperatures, *STP 432*

Frederick, W. L., and Ellis, J. T.: Determination of a polyhydroxy carboxylic acid retarder in hardened concrete, *MR&S*, March, 14

Freezing, moisture content and freeze-thaw cycles of masonry materials (Ritchie and Davison), *JOM*, September, 658

Frequency response, broad-band, random-load fatigue testing facility (Hillberry and Johnson), *JOM*, March 18

Friction
analysis of metallic adhesion data (Keller), *STP 431*
definition and evaluation of parameters which influence the adhesion of metals (Gilbreath), *STP 431*
influence of crystal structure, orientation and solubility on the adhesion and sliding of various metal single crystals in vacuum (10^{-11} torr) (Buckley), *STP 431*
statistical method for the study of friction and wear in vacuum (Podlasek and Shen), *STP 431*

Fritz, I. T.: Quality assurance in jet fuel transfer operations, *STP 428*

Fritz, K. E., and DeForest, D. R.: High-strength turbo-generator retaining ring forgings of an age hardenable austenitic alloy, *JOM*, September, 629

Fuchs, H. O.: see Gerber, T. L., and Fuchs, H. O.

Fungi
accelerated tests for the evaluation of mold resistance of paint films (Ross), *JOM*, September, 594
biological deterioration, the information background (Wessel), *MR&S*, September, 10

G

Gage blocks, dimensional stability of gage block materials (Meyerson, Giles, and Newfeld), *JOM*, December, 727

Gallaccio, A. (discussion), *STP 435*

Gamma ray, attenuation of x-rays and gamma rays in concrete (Foster), *MR&S*, March, 19

Gasoline, in-line blending trends, economics, and the use of continuous analyzers for quality control (Crane), *STP 428*

Gates, R. G., and Wood, W. A.: Evaluating potential fatigue performance of composites (Cu/W and Cu/Mo) from microstructural behavior, *STP 438*

Gavan, F. M., and Vanaman, J. B.: Significant variables affecting results obtained with the James friction machine, *MR&S*, November, 16

Geology
borehole cameras (Lundgren, Sturges, and Cluff), *MR&S*, August, 17
reconnaissance using color aerial photography (Anson), *MR&S*, February, 8

George, F. D., Ford, J. A., and Salkind, M. J.: The effect of fiber orientation and morphology on the tensile behavior of Al₃Ni whisker reinforced aluminum, *STP 438*

Gerber, T. L., and Fuchs, H. O.: Analysis of nonpropagating fatigue cracks in notched parts with compressive mean stress, *JOM*, June, 359

Gerberich, W. W., and Baker, G. S.: Toughness of two-phase 6Al-4V titanium microstructures, *STP 432*

Gilbert, S. G.: see Wilks, R. A., Jr., and Gilbert, S. G.

Gilbreath, W. P.: Definition and evaluation of parameters which influence the adhesion of metals, *STP 431*

Giles, P. M.: see Meyerson, M. R., Giles, P. M., and Newfeld, P. F.

Gilfrich, J. V.: see Birks, L. S., Gilfrich, J. V., and Yakowitz, H.

Gillam, J. L.: see Jugovic, Z. T., and Gillam, J. L.

Gilliland, J. L.: A survey of portland cement specifications of the United States of America, *STP 441*

Glass fabric laminates, the mystery of reinforced plastics variability: nondestructive testing holds the key (Zurbrick), *MR&S*, July, 36

Glucklich, Joseph, and Cohen, L. J.: Strain-energy and size effects in a brittle material, *MR&S*, October, 17

Goode, R. J.: see Howe, D. G., and Goode, R. J.

Gottbrath, Judith: Effects of elevated temperature tensile straining on sheet metals, *MR&S*, March, 25

Gould, G. C.:
Long time isothermal embrittlement in 3.5Ni, 1.75Cr, 0.50Mo, 0.20C steel, *STP 407*
Temper embrittlement in high purity 3.5Ni, 1.75Cr, 0.20C steel, *STP 407*

Graphite
application of alcohol penetrant for evaluation of surface porosity of graphite inserts for rocket nozzles (Hendron), *STP 439*
contact microradiography of graphite (Bunnell), *STP 439*
infrared testing of bonds between graphite and protective coatings (Green and Day), *STP 439*
low voltage radiographic and microradiographic techniques for graphite (McClung), *STP 439*
nondestructive testing of graphite at the Los Alamos scientific laboratory (Blanks, Edenborough, Elliott, and Ford), *STP 439*
a novel infrared nondestructive testing technique for determining the thermal conductivity of graphite (Schultz), *STP 439*
prediction of strength of graphitic material by nondestructive test techniques (Fanelli and McKown), *STP 439*
strength predictions for graphite: a review of prior work at AVCO SSD (Hastings), *STP 439*

Gray, R. J.: The present status of metallography, *STP 430*

Green, D. R., and Day, C. K.: Infrared testing of bonds between graphite and protective coatings, *STP 439*

Greenlee, M. L., and Plock, L. F.: Resistance of titanium-base alloys to atmospheric corrosion, *STP 435*

Grosskreutz, J. C.: see Hancock, J. R., and Grosskreutz, J. C.

Grounes, M.: Irradiation effects in Fort-weld steel containing different boron isotopes, *JOM*, September, 614

Guadagni, D. G.: Requirements for coordination of instrumental and sensory techniques, *STP 440*

Guttman, Herbert:
Effects of atmospheric factors on the corrosion of rolled zinc, *STP 435*
and Sereda, P. J.: Measurement of atmospheric factors affecting the corrosion of metals, *STP 435*

Gypsum, size effects in gypsum mortars (White and Sabnis), *JOM*, March, 163

H

Hahn, G. T., and Rosenfield, A. R.: Sources of fracture toughness: the relation between K_{Ic} and the ordinary tensile properties of metals, *STP 432*

Hall, G. S.: see Seagle, S. R., Hall, G. S., and Seeley, R. R.

Hanawalt, J. D.: see Thomassen, L., Hanawalt, J. D., and Rinn, H. W.

Hancock, J. R., and Grosskreutz, J. C.: Plastic yielding and strain distribution in filament-reinforced metals, *STP 438*

Hancox, N. L.: The drying of plaster of paris at temperatures between 21 and 37 C, *JOM*, March, 153

Hansen, W. C.: Potential compound composition of portland cement clinker, *JOM*, March, 100

Harbinson, E. N., and Baroch, C. J.: Mechanical properties of zircaloy-4 after irradiation at 130, 650, and 775 F, *JOM*, March, 107

Hardening, of asphalt during production of asphaltic concrete mixes (Lee and Csanyi), *JOM*, September, 538

Hardware, report of Subcommittee XVI on field tests of atmospheric corrosion of hardware, Committee A-5, *Proc. 1966, Proc. 1967, Proc. 1968*

Harris, D. H.: Measuring the accuracy of human inspection, *MR&S*, December, 8

Harris, D. O., and Dunegan, H. L.: Fracture toughness of beryllium, *JOM*, March, 59

Hassel, R. E.: see Bayer, J. L., Hassel, R. E., and Denton, G. H.

Hastings, C. H.: Strength predictions for graphite: a review of prior work at AVCO SSD, *STP 439*

Hauser, J. J.: see Banerjee, B. R., Hauser, J. J., and Capenos, J. M.

Hay, D. R.: see Pinnel, M. R., Hay, D. R., and Lawley, A.

Hazards, the growing need for product information to protect the American consumer (LaFollette), *MR&S*, August, 12

Hearing
hearing (Silbiger), *STP 433*
the nature of stimuli (Foster and Danker), *STP 433*

Heat treatment, effects of heat treating environmental conditions on the stress-corrosion cracking resistance of several titanium alloys (Howe and Goode), *STP 432*

Heckel, R. W.: see Cheskis, H. P., and Heckel, R. W.

Heinrich, K. F. J.: Scanning electron probe microanalysis, *STP 430*

Hendron, J. A.: Application of alcohol penetrant for evaluation of surface porosity of graphite inserts for rocket nozzles, *STP 439*

Hertzberg, R. W.: see McMillan, J. C., and Hertzberg, R. W.

see Warke, W. R., Hertzberg, R. W., Nielsen, N. A., Hunter, M. S., and Hill, M.

Herzog, J. A.: Introduction, *STP 438*

Hickerson, J. F. (discussion), *STP 428*

Hickey, C. F., Jr.: Mechanical properties and bonding efficiency of steel composites, *JOM*, March, 3

Hicks, R. G.: see Vallerga, B. A., and Hicks, R. G.

High temperature
effects of elevated temperature tensile straining on sheet metals (Gottbrath), *MR&S*, March, 25
thermal conductivity of cupro-nickel alloys at elevated temperatures (Willett), *JOM*, December, 744

Hill, M.: see Spitzig, W. A., Hill, M., Pellissier, G. E., Beachem, C. D., Brothers, A. J., and Warke, W. R.
 see Warke, W. R., Hill, M., Nielsen, N. A., Hertzberg, R. W., and Hunter, M. S.
 Hillberry, B. M., and Johnson, B. L.: Broad-band, random-load fatigue testing facility, *JOM*, March, 18
 Hodges, H. C.: Real life simulation—a challenge to over-the-road tire testing, *MR&S*, June, 20; see erratum, *MR&S*, September, 56
 Hoffman, J. A.: Principles of psychological test methods (judgmental methods—appearance) (Hoffman), *STP* 433
 Holm, R.: see Mattsson, E., and Holm, R.
 Holtz, H. G.: see Newhouse, D. L., and Holtz, H. G.
 Holtz, W. G.: Soil as an engineering material, *JOM*, December, 847
 Hordon, M. J.: Adhesion of metals in high vacuum, *STP* 431
 Horwitz, D.: see Csanady, M., and Horwitz, D.
 Howe, D. G., and Goode, R. J.: Effects of heat treating environmental conditions on the stress-corrosion cracking resistance of several titanium alloys, *STP* 432
 Hull, F. C.: Effect of composition on heat-affected-zone notched rupture strength of a stainless steel, *JOM*, June, 239
 Human factors, systems and design—an extrapolation to 2000 A. D. (Eberhard), *MR&S*, May, 12
 Human factors, measuring the accuracy of human inspection (Harris), *MR&S*, December, 8
 Human senses, manual on sensory testing methods (Committee E-18), *STP* 434
 Humidity, the information background in the field of biological deterioration of nonmetallic materials (Wessel), *MR&S*, September, 10
 Humidity cabinet, controlled cyclic condensation (Minuti and Bowen), *MR&S*, June, 33
 Hunter, M. S.: see Warke, W. R., Hunter, M. S., Nielsen, N. A., Hertzberg, R. W., and Hill, M.
 and McMillan, J. C.: Fractography and microstructure of aluminum alloys 7075-T651 and 7075-T7351, *STP* 435
 Hydraulic cement, significance of the test for normal consistency of hydraulic cement (Dise), *STP* 441
 Hydrogen embrittlement, special fractographic techniques for failure analysis (Whiteson, Phillips, Kerlins, and Rawe), *STP* 436

I

Impact tests, impact-fatigue testing of titanium alloys (Weltzin and Koves), *JOM*, September, 469
 Implants, progress in metallic surgical implants (Schmeisser), *JOM*, December, 951
 Infrared detectors, developments in remote sensing applicable to airborne engineering surveys of soils and rocks (Parker), *MR&S*, February, 22
 Infrared photography color aerial photography in the reconnaissance of soils and rocks (Anson), *MR&S*, February, 8
 infrared sensing of soils and rocks (McLerran), *MR&S*, February, 17
 Injuries, the growing need for product information to protect the American

consumer (LaFollette), *MR&S*, August, 12
 Inspection, measuring the accuracy of human inspection (Harris), *MR&S*, December, 8
 Intergranular corrosion, corrosion and fatigue studies of extruded 7075-T6 spar caps (Shaffer, Sebastian, Rosenfeld, and Ketcham), *JOM*, June, 400
 Irani, J. J., May, M. J., and Elliott, D.: Effect of thermal and thermomechanical treatments on the temper embrittlement of low-alloy steels, *STP* 407
 Iron, the effect of cyclic stressing on the yield behavior of vacuum melted iron (Stephens), *JOM*, June, 386
 Iron-nickel alloys effect of carbon content on transformation structures of iron-22 percent nickel alloys (Mihalisin), *STP* 430
 electron microstructure study of an iron-nickel base heat-resistant alloy containing cobalt (Maniar and James), *STP* 430
 Iron-nickel-copper alloys, atmospheric corrosion behavior of some nickel alloys (van Rooyen and Copson), *STP* 435
 Irradiation effects in Fortiweld steel containing different boron isotopes (Grounes), *JOM*, September, 614
 Irritation, measurement of (McNamara), *STP* 433
 Irvine, Ralstone R.: The legal implications of standardization, *MR&S*, July, 24
 Ishai, O., Weller, T., and Singer, J.: Anisotropy of Mylar A sheets, *JOM*, June, 337
 ISO cement standards, a comparison of ISO and ASTM tests for cement strength (Foster and Blaine), *STP* 441
 Isotopes, irradiation effects in Fortiweld steel containing different boron isotopes (Grounes), *JOM*, September, 614

J

Jackson, J. D., and Boyd, W. K.: Crevice corrosion of titanium, *STP* 432
 Jackson, P. W.: see Cratchley, D., Jackson, P. W., and Baker, A. A.
 James, H. M.: see Maniar, G. N., and James, H. M.
 James machine, significant variables affecting results obtained with the James friction machine (Gavan and Vanaman), *MR&S*, November, 16
 Johnson, A. I.: see Smith, P. C., Johnson, A. I., Fisher, C. P., and Womack, L. M.
 Johnson, A. R.: see Langhoff, R. R., and Johnson, A. R.
 Johnson, B. L.: see Hillberry, B. M., and Johnson, B. L.
 Johnson, R. W.: Systems testing—an aerospace management view, *MR&S*, January, 9
 Jones, A. R., Sr.: Electrical conductivity measurement standards, *MR&S*, November, 8
 Jones, R. C.: Deformation of wire reinforced metal matrix composites, *STP* 438
 Joy, M. J.: see Reddy, A. S., and Joy, M. J.
 Jugovic, Z. T., and Gillam, J. L.: Early hydration reactions of abnormal setting portland cement, *JOM*, September, 517

K

Kaiser, W. D., and Cress, H. A.: A simple, high-capacity, rotating-load,

fatigue-testing machine, *MR&S*, January, 12
 Kalousek, G. L., and Kopanda, J. E.: Binders of autoclaved products, *JOM*, June, 304
 Karpe, S. A.: Turbine system bearing failures generally classified as the machining type, *STP* 437
 Katlin, J. M.: see Carman, C. M., and Katlin, J. M.
 Kehoe, T. J. (discussion), *STP* 428
 Keller, D. V., Jr.: Introduction, *STP* 431
 The analysis of metallic adhesion data, *STP* 431
 Kellogg, L. G.: Flight reactor materials development, self-weld studies, *STP* 431
 Kerlins, V.: see Whiteson, B. V., Kerlins, V., Phillips, A., and Rawe, R. A.
 Ketcham, S. J.: see Shaffer, I. S., Ketcham, S. J., Sebastian, J. C., and Rosenfeld, M. S.
 Khosla, V. K.: see Pagen, C. A., and Khosla, V. K.
 Klemmer, E. T.: Psychological principles of subjective evaluation, *STP* 433
 Klima, S. J.: see Nachtigall, A. J., Klima, S. J., and Freche, J. C.
 Kopanda, J. E.: see Kalousek, G. L., and Kopanda, J. E.
 Kostman, S. J.: Lubricants and wear coatings for titanium, *STP* 432
 Kovac, F. J., and O'Neil, K. B.: Predicting the fatigue performance of tires, *MR&S*, June, 27
 Koves, G.: see Weltzin, R. D., and Koves, G.
 Kozin, F.: see Sweet, A. L., and Kozin, F.
 Kramer, Amihud: Texture, *STP* 433
 Kuhn, Paul: Strength calculations for sheet-metal parts with cracks, *MR&S*, September, 21

L

Lackey, J. Q., and Streicher, M. A.: Detection and removal of iron contamination from stainless steel surfaces, *JOM*, December, 983
 Ladanyi, B., and Nguyen, D.: Perforated beam test for determining tensile strength of rock, *JOM*, September, 483
 LaFollette, Bronson C.: The growing need for product information to protect the American consumer, *MR&S*, August, 12
 Laird, C.: Criteria for application of hot-stage transmission electron microscopy to study of physical metallurgy, *STP* 430
 Lane, I. R., and Cavallaro, J. L.: Metallurgical and mechanical aspects of the seawater stress corrosion of titanium, *STP*, 432
 Lange, E. A.: see Crooker, T. W., and Lange, E. A.
 Langenau, E. E.: Correlation of objective-subjective methods as applied to the perfumery and cosmetics industries, *STP* 440
 Langhoff, R. R., and Johnson, A. R.: Application of the QTM-A in the quantitative metallography of specialty steels, *STP* 430
 LaQue, F. L. (discussion), *STP* 435
 Larson, F. R.: see Carr, F. L., Larson, F. R., and Nunes, J.
 Larson, T. D., and Cady, P. D.: A systems approach to analysis of hardened concrete, *MR&S*, October, 8
 Lasko, W. R.: see Tice, W. K., Lasko, W. R., and Lemkey, F. D.
 Lawley, A.: see Pinnel, M. R., Lawley, A., and Hay, D. R.

- Layne, R. P.: Vapor space corrosion inhibition of steam turbine lubricating and cleaning oils, *STP 437*
- Lead alloys, report of Subcommittee IV on atmospheric corrosion, Committee G-1, *Proc. 1966*
- Ledbetter, W. B.: see Das, S. K., and Ledbetter, W. B.
- Lee, D. Y., and Csanyi, L. H.: Hardening of asphalt during production of asphaltic concrete mixes, *JOM*, September, 538
- Legal aspects
protecting standardization activities from antitrust activities: a 1968 view (Brooke), *MR&S*, July, 19
the legal implications of standardization (Irvine), *MR&S*, July, 24
- Lemkey, F. D.: see Tice, W. K., Lemkey, F. D., and Lasko, W. R.
- Length standards, dimensional stability of gage block materials (Meyerson, Giles, and Newfeld), *JOM*, December, 727
- Lenoe, E. M.: Micromechanics of boron filament reinforced aluminum composites, *STP 438*
- Lherbier, L. W.: see Black, H. L., and Lherbier, L. W.
- Lindgren, S.: see Mattsson, E., and Lindgren, S.
- Low alloy steels, atmospheric corrosion of carbon and low alloy cast steels (Briggs), *STP 435*
- Low Temperature
biaxial properties of titanium alloys at cryogenic temperatures (Frederick and Corn), *STP 432*
texture strengthening and fracture toughness of titanium alloy sheet at room and cryogenic temperatures (Sullivan), *STP 432*
- Lubricants and wear coatings for titanium (Kostman), *STP 432*
- Lubrication
heavy duty gas turbines clean oil systems (Smith), *STP 437*
metallic adhesion data analysis (Keller), *STP 431*
steam turbine fire resistant fluids for electrohydraulic control applications (Wolfe and Cohen), *STP 437*
steam turbine lubricating and cleaning oil vapor space corrosion inhibition (Layne), *STP 437*
turbine system bearing failures generally classified as the machining type (Karpe), *STP 437*
turbine thrust bearing failures, wire-wool type (Evans and Fowle), *STP 437*
- Ludema, K. C.: see Segel, Leonard, Ludema, K. C., and Dugoff, H. J.
- Ludwigson, D. C.: Rockwell hardness of annealed stable austenitic stainless steels, *JOM*, September, 496
- Lundgren, Raymond, Sturges, F. C., and Cluff, L. S.: Borehole cameras, *MR&S*, August, 17
- Lynch, C. T.: see Burte, H. M., and Lynch, C. T.
- Lyst, J. O.: The effects of cold working on the fatigue strength of heat-treated aluminum alloys: a review of ARL data and the literature, *JOM*, December, 996
- M**
- Mac Donald, J. W.: Introduction, *STP 437*
- Magnesium alloys
atmospheric exposure of light metals (Brandt and Adam), *STP 435*
atmospheric exposure of wrought aluminum and magnesium alloys (Adam and Dougherty), Committee B-7, *Proc. 1966*
- the effect of environment on the fatigue properties of selected engineering alloys (Shives and Bennett), *JOM*, September, 695
report of Subcommittee IV on atmospheric corrosion, Committee G-1, *Proc. 1966*
- Malleable irons, corrosion test results on fifteen ferrous metals after seven-years atmospheric exposure (Mannweiler), *STP 435*
- Maniar, G. N., and James, H. M.: Electron microstructure study of an iron-nickel base heat-resistant alloy containing cobalt, *STP 430*
- Manganello, S. J.: see Porter, L. F., Manganello, S. J., and Carter, G. C.
- Mannweiler, G. B.: Corrosion test results on fifteen ferrous metals after seven-years atmospheric exposure, *STP 435*
- Maraging steels
fractographic analysis of the relationships between fracture toughness and surface topography in ultra-high-strength steels (Spitzig, Pellissier, Beachem, Brothers, Hill, and Warke), *STP 436*
properties of cold-reduced 300-grade 18Ni maraging steel (Spaeder and Murphy), *JOM*, March, 116
- Mardulier, F. J.:
Bleeding of cement: its significance in concrete, *STP 441*
Is there a future for voluntary standardization? *MR&S*, May, 25
- Marine organisms, the information background in the field of biological deterioration of nonmetallic materials (Wessel), *MR&S*, September, 10
- Martensitic stainless steels
effect of thermal and thermomechanical treatments on the temper embrittlement of low-alloy steels (Irani, May, and Elliott), *STP 407*
yield and flow of tempered and prestrained and retempered martensite and bainite (DiCesare), *JOM*, June, 444
- Martin, P. F.: see Comon, J., Martin, P. F., and Bastien, P. G.
- Mason, R. C.: Quality assurance in petroleum pipeline transfer operations (Mason), *STP 428*
- Mason, Robert (discussion), *STP 428*
- Masonry, moisture content and freeze-thaw cycles of masonry materials (Ritchie and Davison), *JOM*, September, 658
- Mateos, Manuel: Clayey soil-lime specimens hardened by steam, *JOM*, June, 294
- Mattsson, E.
and Holm, R.: Copper and copper alloys, *STP 435*
and Lindgren, S.: Hard rolled aluminum alloys, *STP 435*
- May, M. J.: see Irani, J. J., May, M. J., and Elliott, D.
- McCall, J. L.: Electron fractography—tools and techniques, *STP 436*
- McClung, R. W.: Low voltage radiographic and microradiographic techniques for graphite, *STP 439*
- McCormick, F. C., and Euyen, E. J. A.: Relationship between microvoid structure and volumetric changes of plastic cellular concrete, *JOM*, March, 87
- McCoey, W. J., and Eshenour, O. L.: Significance of total and water-soluble alkali contents of portland cement, *JOM*, September, 684
- McGeary, F. L., Summerson, T. J., and Ailor, W. H., Jr.: Atmospheric exposure of nonferrous metals and alloys—aluminum: seven-year data, *STP 435*
- McKown, R. D.: see Fanelli, L. H., and McKown, R. D.
- McLerran, J. H.: Infrared sensing of soils and rocks, *MR&S*, February, 17
- McMahon, C. J., Jr.: Temper brittleness—an interpretive review, *STP 407*
- McMillan, J. C.
see Hunter, M. S., and McMillan, J. C.
and Hertzberg, R. W.: Application of electron fractography to fatigue studies, *STP 436*
- McMurdie, H. F.: Progress in x-ray diffraction data compilations, *STP 430*
- McNamara, B. P.
Measurement of irritation, *STP 433*
and Danker, W. H.: Odor and taste, *STP 433*
Vision, *STP 433*
- Mechanical properties
of beryllium filament-reinforced aluminum composites (Toy), *JOM*, March, 43
of cold-reduced 300-grade 18Ni maraging steel (Spaeder and Murphy), *JOM*, March, 116
high-strength turbo-generator retaining ring forgings of an age hardenable austenitic alloy (Fritz and DeForest), *JOM*, September, 629
reversed bending fatigue characteristics of copper-clad steel conductors (Fox), *JOM*, March, 32
size effects in gypsum mortars (White and Sabnis), *JOM*, March, 163
uniaxial and biaxial testing of brittle materials, an improved method (Babel and Sines), *JOM*, March, 134
of Zircaloy-4 after irradiation at 130, 650, and 775 F (Harbinson and Baroch), *JOM*, March, 107
- Mehan, R. L.: Fabrication and evaluation of sapphire whisker reinforced aluminum composites, *STP 438*
- Mehlman, Stanley: see Turk, Amos, and Mehlman, Stanley
- Meininger, R. C.: Effect of core diameter on measured concrete strength, *JOM*, June, 320
- Mernitz, Paul (discussion), *STP 428*
- Metallography
application of the QTM-A in the quantitative metallography of specialty steels (Langhoff and Johnson), *STP 430*
the case for a universal x-ray diffraction intensity scale (Scott), *STP 430*
criteria for application of hot-stage transmission electron microscopy to study of physical metallurgy (Laird), *STP 430*
description and performance of a new electrovibration polishing method (Petzow and Baer), *STP 430*
effect of carbon content on transformation structures of iron-22 percent nickel alloys (Mihalisin), *STP 430*
electron fractography—tools and techniques (McCall), *STP 436*
electron microscopy applied to a unidirectionally solidified Al-Al₃Ni eutectic alloy (Tice, Lasko, and Lemkey), *STP 430*
electron microstructure study of an iron-nickel base heat-resistant alloy containing cobalt (Maniar and James), *STP 430*
evaluation of specimen preparation and the use of standards in electron probe microanalysis (Yakowitz), *STP 430*
evaluation study of various standard x-ray powder diffraction techniques (Thomassen, Rinn, and Hanawalt), *STP 430*

- microscopical studies of impact and shock loading of metals and fluorocarbon polymers immersed in liquid fluorine (Tiner and Asunmaa), STP 430
- a mid-century of metallography—retrospect and aspect (Wyman), STP 430
- new applications of electron probe microanalysis (Brown), STP 430
- the present status of metallography (Gray), STP 430
- progress in x-ray diffraction data compilations (McMurdie), STP 430
- quantitative microstructural analysis (DeHoff), STP 430
- recent advances in x-ray diffraction topography (Weissmann), STP 430
- report of the Washington electron probe users' group (Birks, Gilfrich, and Yakowitz), STP 430
- temper brittleness—an interpretive review (McMahon), STP 407
- use of the AMEDA microscope in quantitative microscopy (Bayer, Denton, and Hassel), STP 430
- Metal matrix composites**
- deformation of wire reinforced metal matrix composites (Jones), STP 438
- effect of fiber orientation and morphology on the tensile behavior of Al₃Ni whisker reinforced aluminum (George, Ford, and Salkind), STP 438
- evaluating potential fatigue performance of composites (Cu/W and Cu/Mo) from microstructural behavior (Gates and Wood), STP 438
- fabrication and evaluation of sapphire whisker reinforced aluminum composites (Mehan), STP 438
- in situ measurement of deformation behavior of individual phases in composites by x-ray diffraction (Cheskis and Heckel), STP 438
- mechanical behavior of a fiber reinforced metal and its effect upon engineering applications (Cratchley, Baker, and Jackson), STP 438
- the mechanical behavior of aluminum-boron composite material (Stuhrke), STP 438
- micromechanics of boron filament reinforced aluminum composites (Lenoe), STP 438
- microstrain behavior of metal-matrix composites (Pinnel, Hay, and Lawley), STP 438
- plastic yielding and strain distribution in filament-reinforced metals (Hancock and Grosskreutz), STP 438
- the technical potential for metal matrix composites (Burte and Lynch), STP 438
- Metals**
- progress in metallic surgical implants (Schmeisser), JOM, December, 951
- random load fatigue testing: a state of the art survey (Swanson), MR&S, April, 11
- strength calculations for sheet-metal parts with cracks (Kuhn), MR&S, September, 21
- Meyerson, M. R., Giles, P. M., and Newfeld, P. F.: Dimensional stability of gage block materials, JOM, December, 727
- Meyn, D. A.: see Beachem, C. D., and Meyn, D. A.
- Microanalysis**
- evaluation of specimen preparation and the use of standards in electron probe microanalysis (Yakowitz), STP 430
- new applications of electron probe microanalysis (Brown), STP 430
- progress in quantitative electron probe microanalysis (Criss), STP 430
- scanning electron probe microanalysis (Heinrich), STP 430
- Microradiography, low voltage radiographic and microradiographic techniques for graphite (McClung), STP 439
- Microscopes, use of the AMEDA microscope in quantitative microscopy (Bayer, Denton, and Hassel), STP 430
- Microscopy, a mid-century of metallography—retrospect and aspect (Wyman), STP 430
- Microstructure**
- application of the QTM-A in the quantitative metallography of specialty steels (Langhoff and Johnson), STP 430
- microscopical studies of impact and shock loading of metals and fluorocarbon polymers immersed in liquid fluorine (Tiner and Asunmaa), STP 430
- quantitative microstructural analysis (DeHoff), STP 430
- recent advances in x-ray diffraction topography (Weissmann), STP 430
- toughness of two-phase 6Al-4V titanium microstructures (Gerberich and Baker), STP 432
- Mihalisin, J. R.: Effect of carbon content on transformation structures of iron-22 percent nickel alloys, STP 430
- Minuti, D. V., and Bowen, J. H.: A controlled cyclic condensation humidity cabinet, MR&S, June, 33
- Moisture content**
- drying of plaster of paris at temperatures between 21 and 37 C (Hancock), JOM, March, 153
- and freeze-thaw cycles of masonry materials (Ritchie and Davison), JOM, September, 658
- use of nuclear meters in soils investigations: a summary of worldwide research and practice (Smith, Johnson, Fisher, and Womack), STP 412
- Molybdenum, report of Subcommittee IV on atmospheric corrosion, Committee G-1, Proc. 1966
- Moon, Donald P.: Computer assists preparation of new data series publication, MR&S, September, 18
- Morris, M. D. (discussion), MR&S, February, 30
- Mortar, effects of mortar shrinkage on ceramic tile installations (Bernett), JOM, September, 672
- Muller, E. W., and Nishikawa, O.: Atomic surface structure of the common transition metals and the effect of adhesion as seen by field ion microscopy, STP 431
- Murphy, W. J.: see Spaeder, G. J., and Murphy, W. J.
- Mylar physical properties, anisotropy of Mylar A sheets (Ishai, Weller, and Singer), JOM, June, 337
- N**
- Nachtigall, A. J., Klima, S. J., and Freche, J. C.: Fatigue behavior of rocket engine materials to -452 F (4 K), JOM, June, 425
- Nadalin, R. J.: see Byrne, F. P., Nadalin, R. J., Penkrot, J., Rudolph, J. S., and Wolfe, C. R.
- Nagaraj, T. S.: Strain rate influence on shear strength characteristics of a saturated kaolinitic clay, JOM, March, 210
- Neilson, C. A.: Automatic blending and inspection of lubricating oils at the refinery, STP 428
- (discussion), STP 428
- Neuber's rule, smooth specimen simulation of fatigue behavior of notches (Wetzel), JOM, September, 646
- Newfeld, P. F.: see Meyerson, M. R., Newfeld, P. F., and Giles, P. M.
- Newhouse, D. L.: Introduction, STP 407
- and Holtz, H. G.: Temper embrittlement of rotor steels, STP 407
- Nguyen, D.: see Ladanyi, B., and Nguyen, D.
- Nickel and nickel alloys**
- atmospheric corrosion behavior of some nickel alloys (van Rooyen and Copson), STP 435
- investigation of the notch sensitivity of nickel-copper-aluminum alloy rod (Caplan and Zwilsky), JOM, June, 375
- report of Subcommittee IV on atmospheric corrosion, Committee G-1, Proc. 1966
- Nielsen, L. E., and Chen, P. E.: Young's modulus of composites filled with randomly oriented fibers, JOM, June, 352
- Nielsen, N. A.: Environmental effects on fracture morphology, STP 436
- see Warke, W. R., Nielsen, N. A., Hertzberg, R. W., Hunter, M. S., and Hill, M.
- Nishikawa, O.: see Muller, E. W., and Nishikawa, O.
- Nitrogen, temperature dependence of the solid solubility of nitrogen in AISI Type 304 stainless steel (Eckel and Cox), JOM, September, 605
- Nondestructive testing**
- of graphite at the Los Alamos scientific laboratory (Blanks, Edenborough, Elliott, and Ford), STP 439
- infrared testing of bonds between graphite and protective coatings (Green and Day), STP 439
- the mystery of reinforced plastics variability (Zubrick), MR&S, July, 36
- novel infrared technique for determining the thermal conductivity of graphite (Schultz), STP 439
- prediction of strength of graphitic material (Fanelli and McKown), STP 439
- recommended practice for selecting methods for reinforced thermosetting plastics, MR&S, July, 37; see erratum, MR&S, September, 55
- strength predictions for graphite: a review of prior work at AVCO SSD (Hastings), STP 439
- Normal consistency, significance of the test for hydraulic cement (Dise), STP 441
- Notch sensitivity**
- investigation of, for nickel-copper-aluminum alloy rod (Caplan and Zwilsky), JOM, June, 375
- smooth specimen simulation of fatigue behavior of notches (Wetzel), JOM, September, 646
- Nuclear instruments, use in soils investigations: a summary of worldwide research and practice (Smith, Johnson, Fisher, and Womack), STP 412
- Nuclear reactors**
- flight reactor materials development, self-weld studies (Kellogg), STP 431
- mechanical properties of Zircaloy-4 after irradiation at 130, 650, and 775 F (Harbinson and Baroch), JOM, March, 107
- Nunes, J.: see Carr, F. L., Nunes, J., and Larson, F. R.

O

Odor

- concentrations of vapors in test chambers (Turk), *STP* 433
- correlations between instrumental and sensory characterizations of atmospheric odors (Turk and Mehlman), *STP* 440
- correlation of objective-subjective methods as applied in the food field (Sjöström), *STP* 440
- correlation of objective-subjective methods as applied in the perfumery and cosmetics industries (Langenau), *STP* 440
- improved method for determination of residual solvents in packaging materials (Wilks and Gilbert), *MR&S*, January, 29
- limitation of present objective techniques in sensory characterization (Baker), *STP* 440
- limitations of subjective measurement (Foster), *STP* 440
- manual on sensory testing methods, *STP* 434
- requirements for coordination of instrumental and sensory techniques (Guadagni), *STP* 440
- selection of judges for odor discrimination panels (Wittes and Turk), *STP* 440
- and taste (McNamara and Danker), *STP* 433
- O'Neil, K. B.: see Kovac, F. J., and O'Neil, K. B.
- Owens, J. S.: see D'Annessa, A. T., and Owens, J. S.
- Owens, R. S. (discussion), *STP* 437

P

- Packaging materials, an improved method for determination of residual solvents in packaging materials (Wilks and Gilbert), *MR&S*, January, 29
- Pagen, C. A., and Khosla, V. K.: temperature-dependent strength characteristics of sand-asphalt mixtures, *JOM*, September, 501
- Palm, W. E.: see Scherr, H. J., and Palm, W. E.
- Pangborn, R. M.: see Stone, Herbert, and Pangborn, R. M.
- Papirno, Ralph: Structural ductility of high strength titanium alloys, *STP* 432
- Parker, Dana C.: Developments in remote sensing applicable to airborne engineering surveys of soils and rocks, *MR&S*, February, 22
- Pellissier, G. E.: see Spitzig, W. A., Pellissier, G. E., Beachem, C. D., Brothers, A. J., Hill, M., and Warke, W. R.
- Penkrot, J.: see Byrne, F. P., Penkrot, J., Nadalin, R. J., Rudolph, J. S., and Wolfe, C. R.
- Performance
 - Altoona laboratory closes (Etris), *MR&S*, October, 24
 - random load fatigue testing: a state of the art survey (Swanson), *MR&S*, April, 11
- Perfumes, correlation of objective-subjective methods as applied to the perfumery and cosmetics industries (Langenau), *STP* 440
- Permeability, water permeability of asphalt concrete specimens using back-pressure saturation (Vallerga and Hicks), *JOM*, March, 73
- Petroleum testing
 - advanced process chromatograph and modern petroleum plant anal-

- ysis and control requirements (Wherry), *STP* 428
- automatic blending and inspection of lubricating oils at the refinery (Neilson), *STP* 428
- instrumentation for quality assurance of petroleum products (Cropper), *STP* 428
- in-line gasoline blending trends, economics, and the use of continuous analyzers for quality control (Crane), *STP* 428
- quality assurance in jet fuel transfer operations (Fritz), *STP* 428
- quality assurance in petroleum pipeline transfer operations (Mason), *STP* 428
- Petzow, Gunter, and Baer, Karin: Description and performance of a new electrovibration polishing method, *STP* 430
- Phillips, A.: see Whiteson, B. V., Phillips, A., Kerlins, V., and Rawe, R. A.
- Photography
 - aerial, in the reconnaissance of soils and rocks (Anson), *MR&S*, February, 8
 - borehole cameras (Lundgren, Sturges, and Cluff), *MR&S*, August, 17
- Photomicrography, the present status of metallography (Gray), *STP* 430
- Piles and pile driving, pile-soil-interactions during vibro-pile-driving (Bernhard), *JOM*, March, 178
- Pinnel, M. R., Hay, D. R., and Lawley, A.: Microstrain behavior of metal-matrix composites, *STP* 438
- Plaster of paris
 - drying of, at temperatures between 21 and 37 C (Hancox), *JOM*, March, 153
 - hydration, delayed in white-coat plaster: comparison of different methods of analysis (Ramachandran, Sereda, and Feldman), *MR&S*, January, 24
- Plastic concrete, relationship between microvoid structure and volumetric changes of plastic cellular concrete (McCormick and Euyen), *JOM*, March, 87
- Plastics
 - nonlinear combined stress creep experiments on rigid polyurethane foam with application to multiple integral and modified superposition theory (Findley and Stanley), *JOM*, December, 916
 - recommended practice for selecting nondestructive testing methods for reinforced thermosetting plastics, *MR&S*, July, 37; see erratum, *MR&S*, September, 55
 - the mystery of reinforced plastics variability: nondestructive testing holds the key (Zurbrick), *MR&S*, July, 36
- Platt, M. M.: Textile structures serve as life preservers, *MR&S*, March, 8
- Plock, L. F.: see Greenlee, M. L., and Plock, L. F.
- Pneumatic instruments, a pneumatic computer for testing cross-anisotropic materials (Saada), *MR&S*, January, 17
- Podlaseck, S., and Shen, H. K.: A statistical method for the study of friction and wear in vacuum, *STP* 431
- Polishing, description and performance of a new electrovibration polishing method (Petzow and Baer), *STP* 430
- Poly (ethylene terephthalate), anisotropy of Mylar A sheets (Ishai, Weller, and Singer), *JOM*, June, 337
- Polyurethane foam, nonlinear combined stress creep experiments on rigid

- polyurethane foam with application to multiple integral and modified superposition theory (Findley and Stanley), *JOM*, December, 916
- Popovics, Sandor
 - (written discussion), *MR&S*, March, 29
 - (written discussion), *STP* 441
- Porter, L. F., Carter, G. C., and Manganello, S. J.: A study of temper embrittlement during stress relieving of 5Ni-Cr-Mo-V steels, *STP* 407
- Portland cement
 - a survey of portland cement specifications of the United States of America (Gilliland), *STP* 441
 - potential compound composition of portland cement clinker (Hansen), *JOM*, March, 100
- Powder diffraction
 - the case for a universal x-ray diffraction intensity scale (Scott), *STP* 430
 - evaluation study of various standard x-ray powder diffraction techniques (Thomassen, Rinn, and Hanawalt), *STP* 430
- Prestrain and retemper of martensitic and bainitic 4340 steel (DiCesare), *JOM*, September, 559
- Psychological techniques
 - manual on sensory testing methods (Committee E-18), *STP* 434
 - principles of psychological test methods (judgmental methods—appearance) (Hoffman), *STP* 433
- Psychology, limitations of subjective measurement of odors (Foster), *STP* 440
- Psychometrics, manual on sensory testing methods (Committee E-18), *STP* 434
- Purchasing, a time for action in international standardization (Astin), *MR&S*, May, 18

Q

- Quality control, see Petroleum testing
- Quench aging, an experiment on combined quench and strain aging in 1020 steel (Smith and Behun), *JOM*, March, 28

R

- Radiation, infrared testing of bonds between graphite and protective coatings (Green and Day), *STP* 439
- Radiation (nuclear)
 - low-radioactivity concrete (Wollenberg and Smith), *JOM*, December, 757
 - nondestructive testing of graphite at the Los Alamos scientific laboratory (Blanks, Edenborough, Elliott, and Ford), *STP* 439
 - mechanical properties of Zircaloy-4 after irradiation at 130, 650, and 775 F (Harbinson and Baroch), *JOM*, March, 107
- Radiography
 - contact microradiography of graphite (Bunnell), *STP* 439
 - low voltage radiographic and microradiographic techniques for graphite (McClung), *STP* 439
- Ramachandran, V. S., Sereda, P. J., and Feldman, R. F.: Delayed hydration in white-coat plaster: comparison of different methods of analysis, *MR&S*, January, 24
- Rawe, R. A.: see Whiteson, B. V., Rawe, R. A., Phillips, A., and Kerlins, V.
- Reddy, A. S., and Joy, M. J.: Consolidation of partially saturated kaolinite and black cotton soil, *JOM*, June, 256

- Renninger, F. A. (written discussion), *JOM*, September, 556
- Reports, writing a state-of-the-art report (Darby and Veazie), *MR&S*, May, 28
- Residual, analysis of rotor steels for residual elements (Byrne, Nadalin, Penkrot, Rudolph, and Wolfe), *STP* 407
- Resonant frequency, an improved method for the determination of torsional and flexural resonance frequencies of cylindrical specimens (Dickson and Spinner), *JOM*, September, 716
- Retemper, prestrain and retemper of martensitic and bainitic 4340 steel (DiCesare), *JOM*, September, 559
- Rice, L.: see Conrad, H., and Rice, L.
- Rideout, S. P.: The initiation of hot-salt stress corrosion cracking of titanium alloys, *STP* 432
- Rinn, H. W.: see Thomassen, L., Rinn, H. W., and Hanawalt, J. D.
- Ritchie, T., and Davison, J. I.: Moisture content and freeze-thaw cycles of masonry materials, *JOM*, September, 658
- Rittenhouse, J. B.: Space simulation testing of the adhesion of materials, *STP* 431
- Roberts, R. W.: Clean surfaces, their preparation and characterization, *STP* 431
- Robson, D. R.: see Tibbetts, D. C., and Robson, D. R.
- Rock, perforated beam test for determining tensile strength of rock (Ladanyi and Nguyen), *JOM*, September, 483
- Rocker, Arye: see Babitz, Menachem, Rocker, Arye, and Shavit-Stern, A. B.
- Rocket nozzle graphite, application of alcohol penetrant for evaluation of surface porosity of graphite inserts for rocket nozzles (Hendron), *STP* 439
- Rocks
- borehole cameras (Lundgren, Sturges, and Cluff), *MR&S*, August, 17
 - developments in remote sensing applicable to airborne engineering surveys of soils and rocks (Parker), *MR&S*, February, 22
 - infrared sensing of soils and rocks (McLerran), *MR&S*, February, 17
- Rockwell hardness number, of annealed stable austenitic stainless steels (Ludwigson), *JOM*, September, 496
- Rolled zinc, effect of one percent copper addition on the atmospheric corrosion of rolled zinc (Dunbar), *STP* 435
- Romans, H. B., and Craig, H. L., Jr.: Atmospheric stress corrosion testing of aluminum alloys, *STP* 435
- Rosenfeld, M. S.: see Shaffer, I. S., Sebastian, J. C., and Ketcham, S. J.
- Rosenfield, A. R.: see Hahn, G. T., and Rosenfield, A. R.
- Rosenstein, A. H., and Asche, W. H.: Stress-relief embrittlement of high-strength quenched and tempered alloy steels, *STP* 407
- Ross, R. T.: Accelerated tests for the evaluation of mold resistance of paint films, *JOM*, September, 594
- Rotating generators
- statistical study of factors influencing impact strength of turbine generator rotors—influence of temper embrittlement (Comon, Martin, and Bastien), *STP* 407
 - rotor steel analysis for residual elements (Byrne, Nadalin, Penkrot, Rudolph, and Wolfe), *STP* 407
- Rudolph, J. S.: see Byrne, F. P., Rudolph, J. S., Nadalin, R. J., Penkrot, J., and Wolfe, C. R.
- Ryan, J. A., and Baker, M. B.: Adhesional behavior of air and ultrahigh vacuum formed silicate surfaces in relation to the moon (Ryan and Baker), *STP* 431
- S**
- Saada, Adel S.: A pneumatic computer for testing cross-anisotropic materials, *MR&S*, January, 17
- Sabnis, G. M.: see White, R. N., and Sabnis, G. M.
- Safety, the growing need for product information to protect the American consumer (LaFollette), *MR&S*, August, 12
- Salkind, M. J.: see George, F. D., Salkind, M. J., and Ford, J. A. (discussion), *STP* 438
- Samaras, G.: see Theocaris, P. S., and Samaras, G.
- Sand-asphalt mixtures, temperature-dependent strength characteristics of sand-asphalt mixtures (Pagen and Khosla), *JOM*, September, 501
- Scala, E. (written discussions), *STP* 438
- Scherr, H. J., and Palm, W. E.: An automatic and recording torsion measuring apparatus, *MR&S*, December, 13
- Schmeisser, Gerhard, Jr.: Progress in metallic surgical implants, *JOM*, December, 951
- Schultz, A. W.: A novel infrared nondestructive testing technique for determining the thermal conductivity of graphite, *STP* 439
- Scott, R. K.: The case for a universal x-ray diffraction intensity scale, *STP* 430
- Seagle, S. R., Seeley, R. R., and Hall, G. S.: The influence of composition and heat treatment on the aqueous-stress corrosion of titanium, *STP* 432
- Sebastian, J. C.: see Shaffer, I. S., Sebastian, J. C., Rosenfeld, M. S., and Ketcham, S. J.
- Seeley, R. R.: see Seagle, S. R., Seeley, R. R., and Hall, G. S.
- Segel, Leonard, Ludema, K. C., and Dugoff, H. J.: New areas for tire performance methods, *MR&S*, June, 10
- Sensory Evaluation
- concentrations of odorous vapors in test chambers (Turk), *STP* 433
 - correlation of objective-subjective methods as applied in the food field (Sjöström), *STP* 440
 - correlations between instrumental and sensory characterizations of atmospheric odors (Turk and Mehman), *STP* 440
 - hearing (Silbiger), *STP* 433
 - intercorrelation of the senses (Stone and Pangborn), *STP* 433
 - limitations of subjective measurement of odors (Foster), *STP* 440
 - limitation of present objective techniques in sensory characterization (Baker), *STP* 440
 - measurement of irritation (McNamara), *STP* 433
 - methods for measuring degree of subjective response (Doehliert), *STP* 433
 - odor and taste (McNamara and Danker), *STP* 433
 - principles of psychological test methods (judgmental methods—appearance) (Hoffman), *STP* 433
 - psychological principles of subjective evaluation (Klemmer), *STP* 433
 - requirements for coordination of instrumental and sensory techniques (Guadagni), *STP* 440
 - texture (Kramer), *STP* 433
- the nature of stimuli (Foster and Danker), *STP* 433
- the selection of judges for odor discrimination panels (Wittes and Turk), *STP* 440
- vision (McNamara), *STP* 433
- Sensory testing, manual on sensory testing methods (Committee E-18), *STP* 434
- Sereda, P. J.: see Guttman, Herbert, and Sereda, P. J.
- see Ramachandran, V. S., Sereda, P. J., and Feldman, R. F.
- Shaffer, I. S., Sebastian, J. C., Rosenfeld, M. S., and Ketcham, S. J.: Corrosion and fatigue studies of extruded 7075-T6 spar caps, *JOM*, June, 400
- Shannon, J. L., Jr., and Brown, W. F., Jr.: A review of factors influencing the crack tolerance of titanium alloys, *STP* 432
- Shavit-Stern, A. B.: see Babitz, Menachem, Shavit-Stern, A. B., and Rocker, Arye
- Shear strength, strain rate influence on shear strength characteristics of a saturated kaolinitic clay (Nagaraj), *JOM*, March, 210
- Shen, H. K.: see Podlaseck, S., and Shen, H. K.
- Shielding, low-radioactivity concrete (Wollenberg and Smith), *JOM*, December, 757
- Shiffert, J. B.: see Coyle, H. M., and Shiffert, J. B.
- Ship design, an investigation of wire-wool type turbine thrust bearing failures (Evans and Fowle), *STP* 437
- Shives, T. R., and Bennett, J. A.: The effect of environment on the fatigue properties of selected engineering alloys, *JOM*, September, 695
- Shock testing, microscopical studies of impact and shock loading of metals and fluorocarbon polymers immersed in liquid fluorine (Tiner and Asunmaa), *STP* 430
- Shrinkage, effects of mortar shrinkage on ceramic tile installations (Bennett), *JOM*, September, 672
- Silbiger, H. R.: Hearing, *STP* 433
- Silicates, adhesional behavior of air and ultrahigh vacuum formed silicate surfaces in relation to the moon (Ryan and Baker), *STP* 431
- Sines, G.: see Babel, H. W., and Sines, G.
- Singer, J.: see Ishai, O., Singer, J., and Weller, T.
- Sjöström, L. B.: Correlation of objective-subjective methods as applied in the food field, *STP* 440
- Slip resistance, significant variables affecting results obtained with the James friction machine (Gavan and Vanaman), *MR&S*, November, 16
- Smell
- the nature of stimuli (Foster and Danker), *STP* 433
- Manual on Sensory Testing Methods, *STP* 434
- Smith, A. N.: Clean oil systems for heavy duty gas turbines, *STP* 437
- Smith, A. R.: see Wollenberg, H. A., and Smith, A. R.
- Smith, G. V., and Behun, M. F.: An experiment on combined quench and strain aging in 1020 steel, *JOM*, March, 28
- Smith, P. C., Johnson, A. I., Fisher, C. P., and Womack, L. M.: Use of nuclear meters in soils investigations: a summary of worldwide research and practice, *STP* 412
- Soil density, use of nuclear meters in soils investigations: a summary of

- worldwide research and practice (Smith, Johnson, Fisher, and Womack), *STP 412*
- Soil-lime, clayey soil-lime specimens hardened by steam (Mateos), *JOM*, June, 294
- Soil mechanics, strain rate influence on shear strength characteristics of a saturated kaolinitic clay (Nagaraj), *JOM*, March, 210
- Soil stabilization
clayey soil-lime specimens hardened by steam (Mateos), *JOM*, June, 294
- pile-soil-interactions during vibro-pile-driving (Bernhard), *JOM*, March, 178
- Soils (material)
consolidation of partially saturated kaolinite and black cotton soil (Reddy and Joy), *JOM*, June, 256
- developments in remote sensing applicable to airborne engineering surveys of soils and rocks (Parker), *MR&S*, February, 22
- infrared sensing of soils and rocks (McLerran), *MR&S*, February, 17
- manufactured soil samples for laboratory research (Coyle and Shifert), *JOM*, June, 272
- reconnaissance using color aerial photography (Anson), *MR&S*, February, 8
- soil as an engineering material (Holtz), *JOM*, December, 847
- Solar spectrum, simulation of average sea level sunlight (air mass two) (Benning), *JOM*, September, 571
- Solid solubility, temperature dependence of the solid solubility of nitrogen in AISI Type 304 stainless steel (Eckel and Cox), *JOM*, September, 605
- Solvents, an improved method for determination of residual solvents in packaging materials (Wilks and Gilbert), *MR&S*, January, 29
- Soomil, E. Y. (discussions), *STP 437*
- Space environment
adhesional behavior of air and ultra-high vacuum formed silicate surfaces in relation to the moon (Ryan and Baker), *STP 431*
- adhesion of metals in high vacuum (Hordon), *STP 431*
- the analysis of metallic adhesion data (Keller), *STP 431*
- atomic surface structure of the common transition metals and the effect of adhesion as seen by field ion microscopy (Muller and Nishikawa), *STP 431*
- clean surfaces, their preparation and characterization (Roberts), *STP 431*
- cold welding of copper under ultra-high vacuum (Conrad and Rice), *STP 431*
- definition and evaluation of parameters which influence the adhesion of metals (Gilbreath), *STP 431*
- flight reactor materials development, self-weld studies (Kellogg), *STP 431*
- the influence of crystal structure, orientation and solubility on the adhesion and sliding of various metal single crystals in vacuum (10^{-11} torr) (Buckley), *STP 431*
- simulation of average sea level sunlight (air mass two) (Benning), *JOM*, September, 571
- some aspects of the surface chemistry of adhesion and of friction (Adamson), *STP 431*
- space simulation testing of the adhesion of materials (Rittenhouse), *STP 431*
- a statistical method for the study of friction and wear in vacuum (Podlaseck and Shen), *STP 431*
- systems testing—an aerospace management view (Johnson), *MR&S*, January, 9
- Spaeder, G. J., and Murphy, W. J.: Properties of cold-reduced 300-grade 18Ni maraging steel, *JOM*, March, 116
- Spatig, D. O., and Ailor, W. H.: Computerized long-term corrosion data, *STP 435*
- Specimen preparation, evaluation of specimen preparation and the use of standards in electron probe microanalysis (Yakowitz), *STP 430*
- Spinner, S.: see Dickson, R. W., and Spinner, S.
- Spitzig, W. A., Pellissier, G. E., Beachem, C. D., Brothers, A. J., Hill, M., and Warke, W. R.: A fractographic analysis of the relationships between fracture toughness and surface topography in ultrahigh-strength steels, *STP 436*
- Stahl, W. H.: Introduction, *STP 440*
- Stainless steels
computer assists preparation of new data series publication (Moon), *MR&S*, September, 18
- effect of composition on heat-affected-zone notched rupture strength of a stainless steel (Hull), *JOM*, June, 239
- detection and removal of iron contamination from stainless steel surfaces (Lackey and Streicher), *JOM*, December, 983
- environmental effects on fracture morphology (Nielsen), *STP 436*
- fatigue behavior of rocket engine materials to -452 F (4 K) (Nachtigall, Klima, and Freche), *JOM*, June, 425
- statistical evaluation of atmospheric, in-service, and accelerated corrosion of stainless steel automotive trim material (Black and Lherbier), *STP 435*
- Standardization
a time for action in international standardization (Astin), *MR&S*, May, 18
- Altoona laboratory closes (Etris), *MR&S*, October, 24
- comparison of ISO and ASTM tests for cement strength (Foster and Blaine), *STP 441*
- is there a future for voluntary standardization? (Mardulier), *MR&S*, May, 25
- the legal implications of standardization (Irvine), *MR&S*, July, 24
- the long view . . . president Bogart enthusiasm and standardization (Bogart), *MR&S*, August, 8
- protecting standardization activities from antitrust problems: a 1968 view (Brooke), *MR&S*, July, 19
- systems and design—an extrapolation to 2000 A. D. (Eberhard), *MR&S*, May, 12
- Stanley, C. A.: see Findley, W. N., and Stanley, C. A.
- State of the art, writing a state-of-the-art report (Darby and Veazie), *MR&S*, May, 28
- Steel
corrosion rates of mild steel in coastal, industrial, and inland areas of northern California (Thomas and Alderson), *STP 435*
- corrosiveness of 41 atmospheric test sites as measured by specimens of steel and zinc (Committee G-1), *STP 435*
- effect of cyclic stressing on the yield behavior of vacuum melted iron (Stephens), *JOM*, June, 386
- effect of torsional prestrain on the embrittlement of mild steel (Theocaris and Samaras), *JOM*, December, 780
- experiment on combined quench and strain aging in 1020 steel (Smith and Behun), *JOM*, March, 28
- high-strength, prestrain and retemper of martensitic and bainitic 4340 steel (DiCesare), *JOM*, September, 559
- high-strength, stress-relief embrittlement of high-strength quenched and tempered alloy steels (Rosenstein and Asche), *STP 407*
- investigation of a random cumulative damage theory (Sweet and Kozin), *JOM*, December, 802
- measurement of atmospheric factors affecting the corrosion of metals (Guttman and Sereda), *STP 435*
- mechanical properties and bonding efficiency of steel composites (Hickey), *JOM*, March, 3
- mechanical properties and fracture surface topography of a thermally embrittled steel (Carr, Nunes, and Larson), *STP 407*
- progress in metallic surgical implants (Schmeisser), *JOM*, December, 951
- QTM-A application in the quantitative metallography of specialty steels (Langhoff and Johnson), *STP 430*
- rotor steel analysis for residual elements (Byrne, Nadalin, Penkrot, Rudolph, and Wolfe), *STP 407*
- special fractographic techniques for failure analysis (Whiteson, Phillips, Kerlins, and Rawe), *STP 436*
- strain-hardening characteristics of four new steels and a titanium alloy (Fitzpatrick), *JOM*, December, 977
- strength calculations for sheet-metal parts with cracks (Kuhn), *MR&S*, September, 21
- temper brittleness—an interpretive review (McMahon), *STP 407*
- temper embrittlement of rotor steels (Newhouse and Holtz), *STP 407*
- Stephens, R. I.: The effect of cyclic stressing on the yield behavior of vacuum melted iron, *JOM*, June, 386
- Stoloff, N. S.: see Burghard, H. C., Jr., and Stoloff, N. S.
- Stone, Herbert, and Pangborn, R. M.: Interrelation of the senses, *STP 433*
- Strain aging, an experiment on combined quench and strain aging in 1020 steel (Smith and Behun), *JOM*, March, 28
- Strain hardening characteristics of four new steels, and a titanium alloy (Fitzpatrick), *JOM*, December, 977
- Strains, microstrain behavior of metal-matrix composites (Pinnel, Hay, and Lawley), *STP 438*
- Streicher, M. A.: see Lackey, J. Q., and Streicher, M. A.
- Stress analysis, a pneumatic computer for testing cross-anisotropic materials (Saada), *MR&S*, January, 17
- Stress corrosion
atmospheric stress corrosion testing of aluminum alloys (Romans and Craig), *STP 435*
- effects of heat treating environmental conditions on the stress-corrosion cracking resistance of several titanium alloys (Howe and Goode), *STP 432*
- metallurgical and mechanical aspects of the seawater stress corrosion of titanium (Lane and Cavallaro), *STP 432*

- the influence of composition and heat treatment on the aqueous-stress corrosion of titanium (Seagle, Seeley, and Hall), *STP 432*
- the initiation of hot-salt stress corrosion cracking of titanium alloys (Rideout), *STP 432*
- Struck, S. (discussion), *STP 428*
- Structural ductility of high strength titanium alloys (Papirno), *STP 432*
- Stuhrke, W. F.: The mechanical behavior of aluminum-boron composite material, *STP 438*
- Sturges, F. C.: see Lundgren, Raymond, Sturges, F. C., and Cluff, L. S.
- Subjective evaluation, psychological principles of subjective evaluation (Klemmer), *STP 433*
- Subjective response, methods for measuring degree of subjective response (Doehliert), *STP 433*
- Sullivan, T. L.: Texture strengthening and fracture toughness of titanium alloy sheet at room and cryogenic temperatures, *STP 432*
- Summerson, T. J.: see McGeary, F. L., Summerson, T. J., and Ailor, W. H., Jr.
- Sunlight environment, simulation of average sea level sunlight (air mass two) (Benning), *JOM*, September, 571
- Super-strength alloys, computer assists preparation of new data series publication (Moon), *MR&S*, September, 18
- Surface properties
- adhesion of metals in high vacuum (Hordon), *STP 431*
 - analysis of metallic adhesion data (Keller), *STP 431*
 - definition and evaluation of parameters which influence the adhesion of metals (Gilbreath), *STP 431*
 - space simulation testing of the adhesion of materials (Rittenhouse), *STP 431*
- Swanson, S. R.: Random load fatigue testing: a state of the art survey, *MR&S*, April, 11
- Sweet, A. L., and Kozin, F.: Investigation of a random cumulative damage theory, *JOM*, December, 802
- Systems analysis, a systems approach to analysis of hardened concrete (Larson and Cady), *MR&S*, October, 8
- Systems engineering, systems and design—an extrapolation to 2000 A. D. (Eberhard), *MR&S*, May, 12
- Systems testing, an aerospace management view (Johnson), *MR&S*, January, 9
- T**
- Tantalum, report of Subcommittee IV on atmospheric corrosion, Committee G-1, *Proc. 1966*
- Taste
- odor and taste (McNamara and Danker), *STP 433*
 - Manual on sensory testing methods, *STP 434*
 - nature of stimuli (Foster and Danker), *STP 433*
- Technical writing, writing a state-of-the-art report (Darby and Veazie), *MR&S*, May, 28
- Temperature, temperature dependence of the solid solubility of nitrogen in AISI Type 304 stainless steel (Eckel and Cox), *JOM*, September, 605
- Temper embrittlement
- effect of thermal and thermomechanical treatments on the temper embrittlement of low-alloy steels (Irani, May, and Elliott), *STP 407*
 - long time isothermal embrittlement in 3.5Ni, 1.75Cr, 0.50Mo, 0.20C steel (Gould), *STP 407*
 - mechanical properties and fracture surface topography of a thermally embrittled steel (Carr, Nunes, and Larson), *STP 407*
 - statistical study of factors influencing impact strength of turbine generator rotors—influence of temper embrittlement (Comon, Martin, and Bastien), *STP 407*
 - stress-relief embrittlement of high-strength quenched and tempered alloy steels (Rosenstein and Asche), *STP 407*
 - a study of temper embrittlement during stress relieving of 5Ni-Cr-Mo-V steels (Porter, Carter, and Manganello), *STP 407*
 - temper brittleness—an interpretive review (McMahon), *STP 407*
 - temper embrittlement of rotor steels (Newhouse and Holtz), *STP 407*
 - temper embrittlement in high purity 3.5Ni, 1.75Cr, 0.20C steel (Gould), *STP 407*
 - the mechanism of temper brittleness (Capus), *STP 407*
- Tenney, G. H.: Introduction, *STP 439*
- Tensile properties
- effects of elevated temperature tensile straining on sheet metals (Gottbrath), *MR&S*, March, 25
 - investigation of the notch sensitivity of nickel-copper-aluminum alloy rod (Caplan and Zwilsky), *JOM*, June, 375
 - perforated beam test for determining tensile strength of rock (Ladanyi and Nguyen), *JOM*, September, 483
 - sources of fracture toughness: the relation between K_{IC} and the ordinary tensile properties of metals (Hahn and Rosenfield), *STP 432*
 - yield and flow of tempered and pre-strained and retempered martensite and bainite (DiCesare), *JOM*, June, 444
- Tension tests
- an improved method for uniaxial and biaxial testing of brittle materials (Babel and Sines), *JOM*, March, 134
 - strain-energy and size effects in a brittle material (Glucklich and Cohen), *MR&S*, October, 17
- Test equipment
- broad-band, random-load fatigue testing facility (Hillberry and Johnson), *JOM*, March, 18
 - pneumatic computer for testing cross-anisotropic materials (Saada), *MR&S*, January, 17
 - random load fatigue testing: a state of the art survey (Swanson), *MR&S*, April, 11
 - simple, high-capacity, rotating-load, fatigue-testing machine (Kaiser and Cress), *MR&S*, January, 12
 - tire performance methods (Segel, Ludema, and Dugoff), *MR&S*, June, 10
- Textile mechanics, textile structures serve as life preservers (Platt), *MR&S*, March, 8
- Thermal embrittlement, report of Subcommittee VI on thermal embrittlement of medium- and high-chromium ferritic steels, Committee A-10, *Proc. 1967*
- Texture (Kramer), *STP 433*
- Theocaris, P. S., and Samaras, G.: The effect of torsional prestrain on the embrittlement of mild steel, *JOM*, December, 780
- Thermal conductivity
- novel infrared nondestructive testing technique for determining the thermal conductivity of graphite (Schultz), *STP 439*
 - of cupro-nickel alloys at elevated temperatures (Willett), *JOM*, December, 744
- Thermogravimetric analysis, delayed hydration in white-coat plaster: comparison of different methods of analysis (Ramachandran, Sereda, and Feldman), *MR&S*, January, 24
- Thomas, H. E., and Alderson, H. N.: Corrosion rates of mild steel in coastal, industrial, and inland areas of northern California, *STP 435*
- Thomassen, L., Rinn, H. W., and Hanawalt, J. D.: Evaluation study of various standard x-ray powder diffraction techniques, *STP 430*
- Thompson, D. H.: Atmospheric corrosion of copper alloys, *STP 435*
- Tibbetts, D. C., and Robson, D. R.: Translucency of mineral aggregates for built-up roofs, *JOM*, June, 455
- Tice, W. K., Lasko, W. R., and Lemkey, F. D.: Electron microscopy applied to a unidirectionally solidified Al-Al₃Ni eutectic alloy, *STP 430*
- Tile (material), effects of mortar shrinkage on ceramic tile installations (Bernett), *JOM*, September, 672
- Tiner, N. A., and Asunmaa, S. K.: Microscopical studies of impact and shock loading of metals and fluorocarbon polymers immersed in liquid fluorine, *STP 430*
- Tires
- performance methods (Segel, Ludema, and Dugoff), *MR&S*, June 10
 - predicting the fatigue performance (Kovac and O'Neil), *MR&S*, June, 27
 - real life simulation (Hodges), *MR&S*, June, 20
- Titanium
- crevice corrosion of titanium (Jackson and Boyd), *STP 432*
 - lubricants and wear coatings for titanium (Kostman), *STP 432*
- Titanium alloys
- biaxial properties of titanium alloys at cryogenic temperatures (Frederick and Corn), *STP 432*
 - crack tolerance of titanium alloys, a review (Shannon and Brown), *STP 432*
 - effects of heat treating environmental conditions on the stress-corrosion cracking resistance of several titanium alloys (Howe and Goode), *STP 432*
 - effects of a 3.5 percent sodium chloride aqueous saline environment on the fatigue crack propagation characteristics of titanium alloys (Crooker and Lange), *STP 432*
 - impact-fatigue testing of titanium alloys (Weltzin and Koves), *JOM*, September, 469
 - influence of composition and heat treatment on the aqueous-stress corrosion of titanium (Seagle, Seeley, and Hall), *STP 432*
 - initiation of hot-salt stress corrosion cracking of titanium alloys (Rideout), *STP 432*
 - metallurgical and mechanical aspects of the seawater stress corrosion of titanium (Lane and Cavallaro), *STP 432*
 - plane strain fracture toughness and mechanical properties of 5Al-2.5Sn ELI and commercial titanium alloys at room and cryogenic temperatures (Carman and Katlin), *STP 432*
 - progress in metallic surgical implants

(Schmeisser), *JOM*, December, 1951

relation of strength and toughness to fine structures in a beta titanium alloy (Banerjee, Hauser, and Capenos), *STP 432*

report of Subcommittee IV on atmospheric corrosion, Committee G-1, *Proc. 1966*

resistance of titanium-base alloys to atmospheric corrosion (Greenlee and Plock), *STP 435*

sources of fracture toughness: the relation between K_{Ic} and the ordinary tensile properties of metals (Hahn and Rosenfield), *STP 432*

strain-hardening characteristics of four new steels and a titanium alloy (Fitzpatrick), *JOM*, December, 1977

structural ductility of high strength titanium alloys (Papierno), *STP 432*

surface treatment of Ti-6Al-4V for impact-fatigue and wear resistance (Weltzin and Koves), *STP 432*

texture strengthening and fracture toughness of titanium alloy sheet at room and cryogenic temperatures (Sullivan), *STP 432*

toughness of two-phase 6Al-4V titanium microstructures (Gerberich and Baker), *STP 432*

Tkac, V. J. (discussion), *STP 428*

Torque sensor, an automatic and recording torsion measuring apparatus (Scherr and Palm), *MR&S*, December, 13

Torsion

the effect of torsional prestrain on the embrittlement of mild steel (Theocaris and Samaras), *JOM*, December, 780

an improved method for the determination of torsional and flexural resonance frequencies of cylindrical specimens (Dickson and Spinner), *JOM*, September, 716

Torsion measurement, an automatic and recording torsion measuring apparatus (Scherr and Palm), *MR&S*, December, 13

Toy, Albert: Mechanical properties of beryllium filament-reinforced aluminum composites, *JOM*, March, 43

Transition metals, atomic surface structure of the common transition metals and the effect of adhesion as seen by field ion microscopy (Muller and Nishikawa), *STP 431*

Translucence of mineral aggregates for built-up roofs (Tibbetts and Robson), *JOM*, June, 455

Transmission electron microscopy, plastic yielding and strain distribution in filament-reinforced metals (Hancock and Grosskreutz), *STP 438*

Turbines

clean oil systems for heavy duty gas turbines (Smith), *STP 437*

fire resistant fluids for steam turbine electrohydraulic control applications (Wolfe and Cohen), *STP 437*

investigation of wire-wool type turbine thrust bearing failures (Evans and Fowle), *STP 437*

statistical study of factors influencing impact strength of turbine generator rotors—Influence of temper embrittlement (Comon, Martin, and Bastien), *STP 407*

temper embrittlement of rotor steels (Newhouse and Holtz), *STP 407*

turbine system bearing failures generally classified as the machining type (Karpe), *STP 437*

vapor space corrosion inhibition of steam turbine lubricating and cleaning oils (Layne), *STP 437*

Turbogenerators, high-strength retain-

ing ring forgings of an age hardenable austenitic alloy (Fritz and DeForest), *JOM*, September, 629

Turk, Amos:

Concentrations of odorous vapors in test chambers, *STP 433*

and Mehlman, Stanley: Correlations between instrumental and sensory characterizations of atmospheric odors, *STP 440*

see Wittes, Janet, and Turk, Amos

U

Ultrasonic testing, strength predictions for graphite: a review of prior work at AVCO SSD (Hastings), *STP 439*

Ultraviolet light, translucency of mineral aggregates for built-up roofs (Tibbetts and Robson), *JOM*, June, 455

V

Vallerga, B. A., and Hicks, R. G.: Water permeability of asphalt concrete specimens using back-pressure saturation, *JOM*, March, 73

Vanaman, J. B.: see Gavan, F. M., and Vanaman, J. B.

van Rooyen, D., and Copson, H. R.: Atmospheric corrosion behavior of some nickel alloys, *STP 435*

Veazie, W. H.: see Darby, R. L., and Veazie, W. H.

Vicat, significance of the test for normal consistency of hydraulic cement (Dise), *STP 441*

Vision

nature of stimuli (Foster and Danker), *STP 433*

vision (McNamara), *STP 433*

Visual inspection, measuring the accuracy of human inspection (Harris), *MR&S*, December, 8

Volume change, report of Subcommittee C-1, *Proc. 1968*

W

Warke, W. R.:

see Spitzig, W. A., Warke, W. R., Pellissier, G. E., Beachem, C. D., Brothers, A. J., and Hill, M.

Nielsen, N. A., Hertzberg, R. W., Hunter, M. S., and Hill, M.: Techniques for electron microscopic fractography, *STP 436*

Wear

lubricants and wear coatings for titanium (Kostman), *STP 432*

statistical method for the study of friction and wear in vacuum (Podlasek and Shen), *STP 431*

surface treatment of Ti-6Al-4V for impact-fatigue and wear resistance (Weltzin and Koves), *STP 432*

Weissmann, Sigmund: Recent advances in x-ray diffraction topography, *STP 430*

Welding, effect of composition on heat-affected-zone notched rupture strength of a stainless steel (Hull), *JOM*, June, 239

Weller, T.: see Ishai, O., Weller, T., and Singer, J.

Weltzin, R. D., and Koves, Gabor: Impact-fatigue testing of titanium alloys, *JOM*, September, 469

Surface treatment of Ti-6Al-4V for impact-fatigue and wear resistance, *STP 432*

Wessel, Carl J.: The information background in the field of biological deterioration of nonmetallic materials, *MR&S*, September, 10

Wetzel, R. M.: Smooth specimen simulation of fatigue behavior of notches, *JOM*, September, 646

Wherry, T. C.: Advanced process chromatograph and modern petroleum plant analysis and control requirements, *STP 428*

White, R. N., and Sabnis, G. M.: Size effects in gypsum mortars, *JOM*, March, 163

Whiskers, see metal matrix composites

Whiteson, B. V., Phillips, A., Kerlins, V., and Rawe, R. A.: Special fractographic techniques for failure analysis, *STP 436*

Wiesnet, D. R. (discussion), *MR&S*, February, 21

Wilks, R. A., Jr., and Gilbert, S. G.: An improved method for determination of residual solvents in packaging materials, *MR&S*, January, 29

Willett, R. E.: Thermal conductivity of cupro-nickel alloys at elevated temperatures, *JOM*, December, 744

Wills, M. H., Jr. (discussion), *JOM*, September, 557

Wire products, report of Subcommittee XV on the 1961 exposure test of aluminum-coated wire and wire products, Committee A-5, *Proc. 1967*, *Proc. 1968*

Wittes, Janet, and Turk, Amos: The selection of judges for odor discrimination panels, *STP 440*

Wolfe, C. R.: see Byrne, F. P., Wolfe, C. R., Nadalin, R. J., Penkrot, J., and Rudolph, J. S.

Wolfe, G. F., and Cohen, M.: Fire resistant fluids for steam turbine electrohydraulic control applications, *STP 437*

Wollenberg, H. A., and Smith, A. R.: Low-radioactivity concrete, *JOM*, December, 757

Womack, L. M.: see Smith, P. C., Womack, L. M., Fisher, C. P., and Johnson, A. I.

Wood, W. A.: see Gates, R. G., and Wood, W. A.

Wyman, L. L.: A mid-century of metallography—retrospect and aspect, *STP 430*

X

X-Rays, and gamma rays, attenuation of, in concrete (Foster), *MR&S*, March, 19

X-Ray diffraction

recent advances in topography (Weissmann), *STP 430*

progress in data compilations (McMurdie), *STP 430*

X-Ray emission analysis

progress in quantitative electron probe microanalysis (Criss), *STP 430*

report of the Washington electron probe users' group (Birks, Gilfrich, and Yakowitz), *STP 430*

scanning electron probe microanalysis (Heinrich), *STP 430*

Y

Yakowitz, H.:

Evaluation of specimen preparation and the use of standards in electron probe microanalysis, *STP 430*

see Birks, L. S., Yakowitz, H., and Gilfrich, J. V.

Yukawa, S.: see Brothers, A. J., and Yukawa, S.

Z

Zinc

corrosiveness of 41 atmospheric test sites as measured by specimens of steel and zinc (Committee G-1), *STP 435*

effects of atmospheric factors on the

corrosion of rolled zinc (Guttman), STP 435
 measurement of atmospheric factors affecting the corrosion of metals (Guttman and Sereda), STP 435
 report of Subcommittee IV on atmospheric corrosion, Committee G-1, Proc. 1966
 Zinc alloy die castings, performance of

decorative copper-nickel-chromium coatings on, Committee B-8, Proc. 1966
 Zinc-copper alloy, effect of one percent copper addition on the atmospheric corrosion of rolled zinc (Dunbar), STP 435
 Zirconium alloys, mechanical properties of Zircaloy-4 after irradiation at 130,

650, and 775 F (Harbinson and Baroch), JOM, March, 1967
 Zurbrick, J. R.: The mystery of reinforced plastics variability: nondestructive testing holds the key, MR&S, July, 36
 Zwilsky, K. M.: see Caplan, I. L., and Zwilsky, K. M.

MR&S News Index—1968

This is an Index to the news columns of *MR&S* for Volume 8, 1968.

A

Ailor, W. H., Jr. (book review): Aluminum, Vol. 1, II, III, September, 61;
 Corrosion of light metals, March, 47
 Altoona laboratory closes, progenitor of ASTM, October, 24
 American Concrete Institute: Specifications for structural concrete for buildings ACI 301-66 (book review of), January, 47
 Annuity, variable, the case of the shrinking pension—an explanation of the variable annuity, October, 43
 ASTM, award for wood technology established, July, 45; boiler code specifications, December, 27; signs agreement to investigate copyright problems, January, 34; sponsors Russian Delegation, February, 31
 ASTM 71st Annual Meeting, Hawaii symposia highlights, April, 52, June, 43; Gillett and Marburg lectures, April, 49; preliminary program, April, 50, May, 42, June, 44; President's Address, June, 52; preview, April, 47, May, 33
 ASTM Board of directors, acts to strengthen society finances, September, 45; committee on technical committee operations (TCO), August, 44; highlights of January 1968 meeting, April, 56; highlights of May 1968 meeting, September, 44
 ASTM districts, Central New York—St. Lawrence, July, 44; Chicago, August, 46; Cleveland, July, 44; Detroit, January, 39, June, 53; Hawaii, April, 52; Middle Atlantic, January, 39, March, 36; New England, January, 39; New York, January, 38, April, 61, June, 53; Northern Plains, March, 36, April, 61; North Texas, April, 61, August, 46; Northwest, Northern California, Southern California, January, 38; Ohio Valley, March, 37; Philadelphia, January, 38, May, 71, August, 45; Pittsburgh, May, 72, July, 44; Southern California, March, 37
 ASTM grants, honors, and awards, Arnold H. Scott Award, September, 41; awards of merit, September, 30; award to executives, September, 42; Baker, R. A., to receive 1968 Max Hecht Award, January, 33; Dudley Medal, September, 43; grants-in-aid announced, November, 21; Harnden, G. H., receives award for meritorious service in the field of standardization, December, 26; 1968 Harold DeWitt Smith Medal, September, 41; Hogentogler Award, September, 43; Hollomon, J. H., receives award for

outstanding publication in the field of standardization, December, 26; honorary memberships, September, 27; long-time members honored, September, 29; Lundell-Bright Award, September, 43; Platt, M. M., receives 1967 Harold DeWitt Smith Award, January, 33; Rinehart, S. A., receives ASTM doctoral fellowship, November, 23; Sharpe, Louis, receives 1968 ASTM adhesives award, April 53; Thompson Award, September, 41
 ASTM national meetings, abstracts of papers for Annual Meeting, May, 49; abstracts of papers for Fall Meeting, August, 29; Atlanta provides backdrop for Fall Meeting, July, 41; Fall meeting to be held in Atlanta, February, 35; government research and development focus of Fall Meeting, August, 23; impact of testing on design of advanced composites, December, 24; pacific symposia, June, 43; Winter Meeting highlights, April, 54; Winter Meeting to be held in Denver, December, 20; zirconium and hafnium, February, 40, September, 47
 ASTM national officers nominated, May, 38; elected, August, 40
 ASTM 18th materials testing exhibit, May, 44, June, 42, September, 48
 ASTM publishes standards for consumer products, March, 31
 ASTM staff, Bernstorf, B. Allen, joins ASTM staff as office manager, April, 53; Corrigan, B. J., joins the staff as administrative assistant in the meetings department, July, 45; Mowbray, A. Q., was appointed staff secretary of the ASTM Committee on Standards, July, 45; Sherwood, R. M., joins ASTM technical staff, January, 35; Sullivan, Earl R., joins ASTM staff as assistant director in the Spectrographic and Chromatographic Data Section of the Atomic and Molecular Data Dept., April, 53
 ASTM standards, first seminar announced, February, 38; held, July, 42; headquarters flow chart for standards and tentatives, October, 23; second standards seminar planned, October, 29
 ASTM technical committees, concrete pipe, February, 36, March, 34; gas chromatography, January, 36; gaskets, February, 37; glass and glass products, June, 46; joint sealants, February, 37; manufactured carbon and graphite products, February, 37; methods of atmospheric sampling and analysis, February, 38; petroleum products and lubricants, April, 58; resilient floor coverings, Febru-

ary, 39; rubber and rubber-like materials, January, 37, February, 37; surgical implants, September, 50

B

Baker, R. A., to receive 1968 Max Hecht Award, January, 33
 Beach, N. E.: Plastic laminate materials (book review of), August, 55
 Bean, Leonard (letter), June, 51
 Bennett, H., Bishop, J. L., Jr., and Wulfinhoff, M. L.: Practical emulsions, Vol. I and II (book review of), November, 28
 Bicking, C. A. (book review): Elementary statistical methods, August, 55
 Bondi, Arnold: Molecular crystals, liquids and glasses (book review of), October, 37
 Berg, R. M., receives award of merit, September, 30
 Bishop, J. L., Jr.: see Bennett, H., Bishop, J. L., Jr., and Wulfinhoff, M. L.
 Boltz, R. W. (letter), September, 39
 Bornet, G. M., receives award of merit, September, 30
 Bothwell, M. R.: see Godard, H. P., Bothwell, M. R., Jepson, W. B., and Kane, R. L.
 Boulger, F. W. (book review): Mechanical treatment of metals, December, 31
 Bowman, M. G.: see Hausner, H. H., and Bowman, M. G.
 Braun, Kurt C., receives Lundell-Bright Award, September, 43
 Broutman, L., and Krock, R.: Modern composite materials (book review of), April, 72
 Burke, J. J.: Surfaces and interfaces I, chemical and physical characteristics (book review of), September, 61

C

Cady, P. D., receives Thompson Award, September, 41
 Conner, Jack G. (book review): Nuclear reactor materials, March, 46
 Clark, J. E. (book review): Environmental effects on polymeric materials, Vol. I—environments, November, 28
 Cochran, F. L. (letter), December, 27
 Composition and properties of concrete (book review of), December, 31
 Conway, J. B.: Numerical methods for creep and rupture analyses (book review of), March, 46
 Costello, George (book review): Numerical methods for creep and rupture analyses, March, 46

Curley, J. B., appointed to Committee on Standards, March, 31
 Czanderna, A. W.: Vacuum microbalance techniques (book review of), January, 47

D

Damask, A. C. (book review): Molecular crystals, liquids and glasses, October, 37
 Damusis, A.: Sealants (book review of), June, 61
 Davis, H. E.: see Troxell, G. E., Davis, H. E., and Kelly, J. W.
 Davis, R. L., receives grant-in-aid, November, 21
 Definitions, need for better, November, 19
 Dietz, A. G. H., receives honorary membership, September, 27; (book review): Introduction to mechanics of solids, October, 37
 Dodge, H. F., receives honorary membership, September, 27

E

Eftis, John, receives grant-in-aid, November, 21
 Endicott, H. S., receives award of merit, September, 30
 Etris, S. F. (editorials), are you a producing consumer?, October, 7; entropy and resolution, May, 11; icarus and the zero defects program, February, 7; information and innovation, March, 7; the man-machine interface, June, 9; measurement standards, a professional obligation, January, 7; the perils of democracy, September, 9; testing and change, November, 7; toward strengthening the government-industry dialogue, December, 7; the truth-in-everything bill, August, 7
 Evans, E. B., receives grant-in-aid, November, 21

F

Ferriss, Donald (letter), December, 27
 Fleishmann, W. L. (book review): Principles of specification writing, May, 78
 Flinn, P. A. (book review): Mössbauer effect methodology, July, 51
 Football injury conference announced, October, 26
 Fraser, O. B. J., receives award of merit, September, 30
 Friedlaender, W. V., receives award of merit, September, 30
 Fundamentals of refractory compounds (book review of), December, 31
 Furey, J. J., receives award of merit, September, 33

G

Gilbert, L. C. (book review): Durability of concrete structures in Denmark, January, 47; Specifications for structural concrete for buildings ACI 301-66, January, 47
 Gillett Lecture to be presented by Gerhard Schmeisser, Jr., April, 48; 71st annual meeting lecturers, September, 43
 Godard, H. P., Jepson, W. B., Bothwell, M. R., and Kane, R. L.: Corrosion of light metals (book review of), March, 47
 Gray, J. E., receives award of merit, September, 33
 Greene, Charles (book review): The constitution of glasses, a dynamic interpretation, February, 45

Gruverman, I. J.: Mössbauer effect methodology (book review of), July, 51
 Gunn, W. T., receives honorary membership, September, 27

H

Hardy, Reginald, receives Templin Award, September, 41
 Hausner, H. H., and Bowman, M. G.: Fundamentals of refractory compounds (book review of), December, 31
 Hausner, H. H., Johnson, P. K., and Roll, K. H.: Iron powder metallurgy, perspectives in powder metallurgy: 3 (book review of), October, 37
 Hazen, Thomas, receives Arnold H. Scott Award, September, 41
 Herman, Herbert (book review): Surfaces and interfaces I, chemical and physical characteristics, September, 61
 Heymann, F. J., receives Dudley Medal, September, 43
 Hoak, R. D., elected to honorary membership in Committee D-19, May, 73
 Hockman, Arthur (book review): Sealants, June, 61
 Holtz, Helmuth (letter), March, 32
 Holtz, Wesley G., to present Marburg Lecture, April, 49; 71st annual meeting lecturers, September, 43
 Hutton, A. K., receives award of merit, September, 33

I

Idorn, G. M.: Durability of concrete structures in Denmark (book review of), January, 47
 Introduction to mechanics of solids (book review of), October, 37
 Iron powder metallurgy, perspectives in powder metallurgy: 3 (book review of), October, 37
 ISO/TC 61 on plastics, February, 39

J

Johnson, P. K.: see Hausner, H. H., Johnson, P. K., and Roll, K. H.
 Johnson, R. W. (letters), May, 73; December, 27
 Jorgensen, Knut (letter), January, 34
 Jepson, W. B.: see Godard, H. P., Jepson, W. B., Bothwell, M. R., and Kane, R. L.

K

Kaelble, E. F.: Handbook of x-rays for diffraction, emission, adsorption and microscopy (book review of), March, 46
 Kane, R. L.: see Godard, H. P., Kane, R. L., Jepson, W. B., and Bothwell, M. R.
 Kattus, J. R., receives award of merit, September, 33
 Kelly, J. W.: see Troxell, G. E., Kelly, J. W., and Davis, H. E.
 Keyes, J. M., receives award of merit, September, 34
 Kleis, J. D., receives award of merit, September, 33
 Kramer, David (letter), December, 27
 Krock, R.: see Broutman, L., and Krock, R.

L

Larson, T. D., receives Thompson Award, September, 41
 Levaie, B. T. H. (letter), May, 73
 Loveless, H. S. (book review): Plastic laminate materials, August, 55
 Low, J. R., Jr., receives award of merit, September, 34

M

Mallett, G. R.: see Newkirk, J. B., and Mallett, G. R.
 Mather, Bryant, receives civilian service decoration, October, 28
 McCoy, W. J., receives award of merit, September, 34
 Malloy, J. J., receives Thompson Award, September, 41
 Mann, J. Y.: Fatigue of materials (book review of), May, 78
 Marboe, E. C.: see Weyl, W. A., and Marboe, E. C.
 Marburg Lecture to be presented by Wesley G. Holtz, April, 49; 71st annual meeting lecturers, September, 43
 Marculier, F. J.: Legal aspects of ASTM standards (President's Address), June, 52; legal implications of standardization (editorial), June, 9
 Marsden, C. P., Jr., receives award of merit, September, 34
 Marshall, T. A., Jr. (editorial), what is fair-share support?, April, 9
 Martin, B. H. (book review): Reusable protective packaging, July, 51
 Mather, Bryant (book review): Composition and properties of concrete, December, 31
 Matthews, F. W., receives award of merit, September, 34
 Mautner, S. E.: Reusable protective packaging (book review of), July, 51
 Mechanical treatment of metals (book review of), December, 31
 Meier, J. W., receives award of merit, September, 36

N

Newkirk, J. B., and Mallett, G. R.: Advances in x-ray analysis (book review of), March, 46

O

Obituaries: Barr, W. M., November, 22; Bates, P. H., August, 41; Kirklin, W. A., June, 52; Mackenzie, K. G., March, 30; Morrow, J. G., March, 30; Speller, F. N., April, 53; Thurber, E. A., August, 41
 Oliensis, G. L., receives award of merit, September, 36
 Osipow, L. I. (book review): Practical emulsions, Vol. I and II, November, 28

P

Parkins, R. N.: Mechanical treatment of metals (book review of), December, 31
 Patton, W. J.: Materials in industry (book review of), November, 28
 Paulding, B. W., Jr., receives Hogentogler Award, September, 43
 Peterson, R. E. (letter), September, 39
 Philleo, R. E., presented Stanton Walker Lecture, January, 39
 Platt, M. M., receives 1967 Harold DeWitt Smith Award, January, 33
 Polk, L. F., receives honorary membership, September, 27
 Popov, E. P.: Introduction to mechanics of solids (book review of), October, 37
 Popovics, Sandor (letter), March, 32

R

Rickover, Hyman (letter), May, 73
 Rigo, J. H. M., receives award of merit, September, 36
 Riley, H. D., elected to honorary mem-

bership in Committee D-16, August, 41
 Rinehart, S. A., receives ASTM doctoral fellowship, November, 23
 Ritchie, K. M., receives award of merit, September, 36
 Rochow, T. G., receives award of merit, September, 36
 Roll, K. H.: see Hausner, H. H., Roll, K. H., and Johnson, P. K.
 Rosato, D. V., and Schwartz, R. T.: Environmental effects on polymeric materials, Vol. I—environments (book review of), November, 28
 Rosen, H. J.: Principles of specification writing (book review of), May, 78

S

Salkind, Michael (book review): Modern composite materials, April, 72; (letter), September, 39
 Schmeisser, Gerhard, Jr., to present Gillett Lecture, April, 48; 71st annual meeting lecturers, September, 43
 Schwartz, R. T.: see Rosato, D. V., and Schwartz, R. T.
 Scott, Hugh (letter), October, 29
 Seetharam, B. C. (letter), March, 32
 Sharpe, Louis, receives 1968 ASTM adhesives award, April, 53
 Simon, R. W., receives award to executives, September, 42
 Simmons, W. F., receives award of merit, September, 36
 Smith, C. O.: Nuclear reactor materials (book review of), March, 46
 Smith, G. V., receives award of merit, September, 36
 Smith, H. M., receives award of merit, September, 38
 Smith, J. V. (book review): Handbook of x-rays for diffraction, emission, adsorption and microscopy, March, 46
 Smith, W. J., receives award of merit, September, 37
 Space Simulation Conference, joint ASTM-AIAA-IES, August, 42
 Stanton Walker Lecture presented by R. E. Philleo, January, 39
 Stephens, R. I. (book review): Fatigue of materials, May, 78
 Stiehler, R. D., receives award of merit, September, 38
 Stoll, R. G., receives 1968 Harold DeWitt Smith Medal, September, 41
 Stosuy, Athan (book review): Iron powder metallurgy, perspectives in powder metallurgy: 3, October, 37

T

Tancig, W. J. (letter), December, 27
 Torrence, M. F., the need for better definitions, November, 19
 Troxell, G. E., Davis, H. E., and Kelly, J. W.: Composition and properties of concrete (book review of), December, 31

V

VanHorn, K. R.: Aluminum, Vol. I, II, III (book review of), September, 61
 VanVlack, L. H. (book review): Materials in industry, November, 28
 Verman, L. C., receives honorary membership, September, 27

W

Wasilewski, R. J. (book review): Fundamentals of refractory compounds, December, 31
 Wasko, Bernard (book review): Vacuum microbalance techniques, January, 47
 Weaver, J. C., receives award of merit, September, 38
 Weissmann, Sigmund (book review): Advances in x-ray analysis, March, 46
 Wetherill, G. B.: Elementary statistical methods (book review of), August, 55

Weyl, W. A., and Marboe, E. C.: The constitution of glasses, a dynamic interpretation (book review of), February, 45

Woodruff, J. F., receives award of merit, September, 38
 Wulfinhoff, M. L.: see Bennett, H., Wulfinhoff, M. L., and Bishop, J. L., Jr.

Index to Books Reviewed in MR&S—1968

This is an index to all book reviews published by ASTM during 1968 in MR&S.

A

Advances in X-Ray Analysis, J. B. Newkirk and G. R. Mallett, ed., March 1968, 46
Aluminum, Vol. I, II, III, K. R. VanHorn, ed., September 1968, 61

C

Composition and Properties of Concrete, G. E. Troxell, H. E. Davis, and J. W. Kelly, December 1968, 31
The Constitution of Glasses, A Dynamic Interpretation, W. A. Weyl and E. C. Marboe, February 1968, 45
The Corrosion of Light Metals, H. P. Godard, ed., and co-authored by H. P. Godard, W. B. Jepson, M. R. Bothwell, and R. L. Kane, March 1968, 47

D

Durability of Concrete Structures in Denmark, G. M. Idorn, January 1968, 47

E

Elementary Statistical Methods, G. Barrie Wetherill, August 1968, 55
Environmental Effects on Polymeric Materials, Vol. I—Environments, D. V. Rosato and R. T. Schwartz, ed., November 1968, 28

F

Fatigue of Materials, J. Y. Mann, May 1968, 78
Fundamentals of Refractory Compounds, H. H. Hausner and M. G. Bowman, December 1968, 31

H

Handbook of X-Rays for Diffraction, Emission, Adsorption, and Microscopy, E. F. Kaelble, ed., March 1968, 46

I

Introduction to Mechanics of Solids, E. P. Popov, October 1968, 37
Iron Powder Metallurgy, Perspectives in

Powder Metallurgy: 3, H. H. Hausner, ed., October 1968, 37

M

Materials in Industry, W. J. Patton, November 1968, 28
Mechanical Treatment of Metals, R. N. Parkins, December 1968, 31
Modern Composite Materials, L. Broutman and R. Krock, ed., April 1968, 72
Molecular Crystals, Liquids, and Glasses, Arnold Bondi, October 1968, 37
Mossbauer Effect Methodology, Irwin J. Gruverman, ed., July 1968, 51

N

Nuclear Reactor Materials, Charles O. Smith, March 1968, 46
Numerical Methods for Creep and Rupture Analyses, J. B. Conway, March 1968, 46

P

Plastic Laminate Materials, N. E. Beach, August 1968, 55
Practical Emulsions, Vols. I and II, H. Bennett, Jack L. Bishop, Jr., and Max L. Wulfinhoff, November 1968, 28
Principles of Specification Writing, H. J. Rosen, May 1968, 78

R

Reusable Protective Packaging, Dr. Steven E. Mautner, July 1968, 51

S

Sealants, Adolfo Damusis, ed., June 1968, 61
Specifications for Structural Concrete for Buildings ACI 301-66, American Concrete Institute, January 1968, 47
Surfaces and Interfaces I, Chemical and Physical Characteristics, J. J. Burke, ed., September 1968, 61

V

Vacuum Microbalance Techniques Volume 6, A. W. Czanderna, ed., January 1968, 47

